NOTIFICATION OF ADDENDUM

ADDENDUM NO. 1

DATED 1/31/2014

Control	**0500-03-573**
Project	**IM 0451(346)**
Highway	**IH 45**
County	**HARRIS**

Ladies/Gentlemen:

Attached please find an addendum on the above captioned project. Included in the attachment is an adendum notification which details the changes and the respective proposal pages which were added and/ or changed.

Except for new bid insert pages, it is unnecessary to return any of the pages attached.

Bid insert pages must be returned with the bid proposal submitted to the Department, unless your firm is submitting a bid using a computer print out. The computer print out must be changed to reflect the new bid item information.

Contractors and material suppliers, etc. who have previously been furnished informational proposals are not being furnished a copy of the addendum. If you have a subcontractor on the above project, please advise them of this addendum. Acknowledgment of this addendum is not requested if your company has been issued a proposal stamped “This Proposal Issued for Informational Purposes.”

You are required to acknowledge receipt of this addendum on the Addendum Acknowledgement form contained in your bid proposal by placing a mark in the box next to the respective addendum.

Failure to Acknowledge receipt of this addendum in your bid proposal will result in your bid not being read.

04/99

SUBJECT: PLANS AND PROPOSAL ADDENDUMS
PROJECT: IM 0451(346) CONTROL: 0500-03-573
COUNTY: HARRIS
LETTING: 02/05/2014
REFERENCE NO: 0131

PROPOSAL ADDENDUMS

_ PROPOSAL COVER
X BID INSERTS (SH. NO.: 23-28)
X GENERAL NOTES (SH. NO.: SHEET A AND B)
X SPEC LIST (SH. NO.: 3-5 AND 4-5)
X SPECIAL PROVISIONS:
ADDED: 000-2878, 687-005

DELETED: 008-006, 687-004

_ SPECIAL SPECIFICATIONS:
ADDED:

DELETED:

_ OTHER:

DESCRIPTION OF ABOVE CHANGES
(INCLUDING PLANS SHEET CHANGES)

BID INSERTS

SHEET 23-28 - CHANGED SP 004 TO SP 005 FOR ITEM 687-2001.

GENERAL NOTES

SHEET A ON THE PROPOSAL, WAS REVISED TO MATCH THAT ON PLAN SHEET 26. (FOUR MODIFIED STANDARDS WERE ADDED), AND TEXT SHIFTED.
SHEET B ON THE PROPOSAL, WAS REVISED TO MATCH THAT ON PLAN SHEET 26. REMOVED PARAGRAPHS 6, 7 & 8 PERTAINING TO CASES ***1, ***2, & ***3, AND ADDED THREE ASBESTOS CONTAINING MATERIAL PARAGRAPHS. TEXT SHIFTING OCCURRED FROM HERE ON THRU SHEET OO.

SPEC LIST

SHEET 3-5 DELETED SP(008-006), AND ADDED SP(000-2878).
SHEET 4-5 DELETED SP (687-004) AND ADDED SP(687-005).

PLAN SHEETS

SHEET 355 - DESCRIPTIVE CODES NUMBERS REPLACED THE PRIOR ASTERISKS FOR ITEMS 434-2102, 434-2103, 434-2128.

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	100	2002	002	PREPARING ROW DOLLARS and CENTS	STA	47.200	1
	104	2001		REMOVING CONC (PAV) DOLLARS and CENTS	SY	45,276.000	2
	104	2009		REMOVING CONC (RIPRAP) DOLLARS and CENTS	SY	8,789.000	3
	104	2015		REMOVING CONC (SIDEWALKS) DOLLARS and CENTS	SY	2,767.000	4
	104	2021		REMOVING CONC (CURB) DOLLARS and CENTS	LF	20,025.000	5
	104	2023		REMOVING CONC (CTB) DOLLARS and CENTS	LF	89.000	6
	104	2024		REMOVING CONC (RETAINING WALLS) DOLLARS and CENTS	SY	1,060.000	7
	104	2037		REMOVE CONC (RAIL) DOLLARS and CENTS	LF	2,322.000	8
	105	2011		REMOVING STAB BASE AND ASPH PAV (2"-6") DOLLARS and CENTS	SY	859.000	9
	105	2036		REMOVING STAB BASE & ASPH PAV(15"-20") DOLLARS and CENTS	SY	5,763.000	10

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	110	2001		EXCAVATION (ROADWAY) DOLLARS and CENTS	CY	20,372.000	11
	132	2006	005	EMBANKMENT (FINAL)(DENS CONT)(TY C) DOLLARS and CENTS	CY	35,281.000	12
	132	2036	005	EMBANK(FINAL)(DC)(TY E)(CSBE) DOLLARS and CENTS	CY	1,515.000	13
	162	2002		BLOCK SODDING DOLLARS and CENTS	SY	63,380.000	14
	162	2003		STRAW OR HAY MULCH DOLLARS and CENTS	SY	98,434.000	15
	164	2039	002	DRILL SEEDING (PERM) (URBAN) (CLAY) DOLLARS and CENTS	SY	14,457.000	16
	164	2041	002	DRILL SEEDING (TEMP) (WARM) DOLLARS and CENTS	SY	36,951.000	17
	166	2001	001	FERTILIZER DOLLARS and CENTS	AC	20.730	18
	168	2001		VEGETATIVE WATERING DOLLARS and CENTS	MG	2,487.500	19
	260	2006	003	LIME TRT (EXST MATL) (6") DOLLARS and CENTS	SY	59,033.000	20
	260	2012	003	LIME(HYD,COM OR QK)(SLRY)OR QK(DRY) DOLLARS and CENTS	TON	772.000	21

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	276	2224		CEM TRT(PLNT MX) (CL N)(TY E)(GR 4)(6") DOLLARS and CENTS	SY	59,033.000	22
	292	2007		ASPHALT STAB BASE (GR 2)(PG 64) DOLLARS and CENTS	TON	876.000	23
	292	2017		ASPHALT STAB BASE (GR 4)(PG 64) DOLLARS and CENTS	TON	2,336.000	24
	360	2003	003	CONC PVMT (CONT REINF-CRCP)(10") DOLLARS and CENTS	SY	41,872.000	25
	360	2005	003	CONC PVMT (CONT REINF-CRCP)(12") DOLLARS and CENTS	SY	22,104.000	26
	361	2003	001	FULL-DEPTH REPAIR CRCP (10") DOLLARS and CENTS	SY	56.000	27
	368	2001	001	WIDE FLANGE PAVEMENT TERMINALS DOLLARS and CENTS	LF	239.000	28
	400	2005	004	CEM STABIL BKFL DOLLARS and CENTS	CY	7,385.400	29
	400	2016	004	CEMENT STAB BACKFILL (INLET OR MH) DOLLARS and CENTS	CY	617.750	30
	402	2001		TRENCH EXCAVATION PROTECTION DOLLARS and CENTS	LF	7,731.000	31
	403	2001		TEMPORARY SPL SHORING DOLLARS and CENTS	SF	10,991.000	32

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	ITEM NO	DESC CODE	S.P. NO.				
	416	2001	001	DRILL SHAFT (18 IN) DOLLARS and CENTS	LF	195.000	33
	416	2003	001	DRILL SHAFT (30 IN) DOLLARS and CENTS	LF	946.000	34
	416	2004	001	DRILL SHAFT (36 IN) DOLLARS and CENTS	LF	1,013.000	35
	416	2005	001	DRILL SHAFT (42 IN) DOLLARS and CENTS	LF	84.000	36
	416	2006	001	DRILL SHAFT (48 IN) DOLLARS and CENTS	LF	2,360.000	37
	416	2007	001	DRILL SHAFT (54 IN) DOLLARS and CENTS	LF	1,440.000	38
	416	2009	001	DRILL SHAFT (66 IN) DOLLARS and CENTS	LF	1,065.000	39
	416	2010	001	DRILL SHAFT (72 IN) DOLLARS and CENTS	LF	410.000	40
	416	2020	001	DRILL SHAFT (SIGN MTS)(36 IN) DOLLARS and CENTS	LF	30.000	41
	416	2021	001	DRILL SHAFT (SIGN MTS)(42 IN) DOLLARS and CENTS	LF	36.000	42
	416	2022	001	DRILL SHAFT (SIGN MTS)(48 IN) DOLLARS and CENTS	LF	91.000	43

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	ITEM NO	DESC CODE	S.P. NO.				
	416	2023	001	DRILL SHAFT (SIGN MTS)(54 IN) DOLLARS and CENTS	LF	52.000	44
	416	2032	001	DRILL SHAFT (TRF SIG POLE) (36 IN) DOLLARS and CENTS	LF	30.000	45
	416	2033	001	DRILL SHAFT (TRF SIG POLE) (42 IN) DOLLARS and CENTS	LF	17.000	46
	420	2003	002	CL C CONC (ABUT) DOLLARS and CENTS	CY	80.600	47
	420	2005	002	CL C CONC (FOOTING) DOLLARS and CENTS	CY	591.700	48
	420	2006	002	CL C CONC (RAIL FOUNDATION) DOLLARS and CENTS	CY	189.000	49
	420	2019	002	CL C CONC (CAP) DOLLARS and CENTS	CY	1,108.400	50
	420	2033	002	CL S CONC (APPR SLAB) DOLLARS and CENTS	CY	16.300	51
	420	2051	002	CL C CONC (COLUMN) DOLLARS and CENTS	CY	710.300	52
	420	2055	002	CL C CONC (COLUMN)(MASS PLACEMENT) DOLLARS and CENTS	CY	1,208.000	53
	420	2059	002	CL C CONC (CAP)(MASS PLACEMENT) DOLLARS and CENTS	CY	595.000	54

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	ITEM NO	DESC CODE	S.P. NO.				
	420	2089	002	CL F CONC (CAP)(MASS PLACEMENT) DOLLARS and CENTS	CY	114.900	55
	422	2001		REINF CONC SLAB DOLLARS and CENTS	SF	125,042.000	56
	423	2009		RETAINING WALL (SOIL NAILED)(FACIA) DOLLARS and CENTS	SF	7,422.000	57
	423	2018		RETAINING WALL (MSE)(WAVE SCHEME) DOLLARS and CENTS	SF	14,733.000	58
	425	2017	001	PRESTR CONC SLAB BEAM (5SB15) DOLLARS and CENTS	LF	575.820	59
	425	2065	001	PRESTR CONC GIRDER (TX34) DOLLARS and CENTS	LF	770.980	60
	425	2066	001	PRESTR CONC GIRDER (TX40) DOLLARS and CENTS	LF	10,800.220	61
	425	2067	001	PRESTR CONC GIRDER (TX46) DOLLARS and CENTS	LF	2,757.800	62
	430	2002		CL C CONC FOR EXT STR (ABUT) DOLLARS and CENTS	CY	55.600	63
	430	2158		CL S CONC FOR EXT STR (SLAB) DOLLARS and CENTS	SF	16,753.840	64
	430	2175		CL C CONC FOR EXT STR (CAP) DOLLARS and CENTS	CY	27.700	65

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	ITEM NO	DESC CODE	S.P. NO.				
	432	2001		RIPRAP (CONC)(4 IN) DOLLARS and CENTS	CY	223.700	66
	432	2039		RIPRAP (MOW STRIP)(4 IN) DOLLARS and CENTS	CY	82.000	67
	432	2050		RIPRAP (CONC)(CL B)(5 IN) DOLLARS and CENTS	CY	569.000	68
	432	2066		RIPRAP (CONC)(CL B) DOLLARS and CENTS	CY	130.000	69
	434	2046	003	ELASTOMERIC BEAR (EE1) DOLLARS and CENTS	EA	24.000	70
	434	2050	003	ELASTOMERIC BEAR (EE6) DOLLARS and CENTS	EA	8.000	71
	434	2068	003	ELASTOMERIC BEAR (F1) DOLLARS and CENTS	EA	8.000	72
	434	2073	003	ELASTOMERIC BEAR (F8) DOLLARS and CENTS	EA	4.000	73
	434	2102	003	ELASTOMERIC BEAR (SB 1) DOLLARS and CENTS	EA	24.000	74
	434	2103	003	ELASTOMERIC BEAR (SB 2) DOLLARS and CENTS	EA	8.000	75
	434	2128	003	ELASTOMERIC BEAR (SB 3) DOLLARS and CENTS	EA	4.000	76

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	ITEM NO	DESC CODE	S.P. NO.				
	439	2006		CONC OVERLAY (3 IN) DOLLARS and CENTS	SY	165.200	77
	439	2008		DENSE CONC OVERLAY (2 IN) DOLLARS and CENTS	SY	676.000	78
	442	2001	016	STR STL (ROLLED BEAM) DOLLARS and CENTS	LB	163,148.000	79
	442	2002	016	STR STL (PLATE GIRDER) DOLLARS and CENTS	LB	846,700.000	80
	442	2048	016	STRUCTURAL STEEL(MISC NON-BRIDGE) DOLLARS and CENTS	LB	1,698.000	81
	450	2013	001	RAIL (TY SSTR) DOLLARS and CENTS	LF	10,669.550	82
	450	2109	001	RAIL (TY SSTR) W/DRAIN SLOTS DOLLARS and CENTS	LF	4,106.000	83
	452	2003		REMOV RAIL (CONC POST & MTL ELE-MENTS) DOLLARS and CENTS	LF	159.400	84
	454	2001	003	SEALED EXPANSION JOINT (4 IN)(SEJ-A) DOLLARS and CENTS	LF	581.000	85
	454	2004	003	ARMOR JOINT DOLLARS and CENTS	LF	226.000	86

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	ITEM NO	DESC CODE	S.P. NO.				
	454	2005	003	ARMOR JOINT (WITH SEAL) DOLLARS and CENTS	LF	48.200	87
	464	2005	006	RC PIPE (CL III)(24 IN) DOLLARS and CENTS	LF	2,638.000	88
	464	2007	006	RC PIPE (CL III)(30 IN) DOLLARS and CENTS	LF	355.000	89
	464	2009	006	RC PIPE (CL III)(36 IN) DOLLARS and CENTS	LF	721.000	90
	464	2010	006	RC PIPE (CL III)(42 IN) DOLLARS and CENTS	LF	94.000	91
	464	2011	006	RC PIPE (CL III)(48 IN) DOLLARS and CENTS	LF	838.000	92
	464	2012	006	RC PIPE (CL III)(54 IN) DOLLARS and CENTS	LF	674.000	93
	464	2013	006	RC PIPE (CL III)(60 IN) DOLLARS and CENTS	LF	285.000	94
	464	2014	006	RC PIPE (CL III)(66 IN) DOLLARS and CENTS	LF	619.000	95
	464	2015	006	RC PIPE (CL III)(72 IN) DOLLARS and CENTS	LF	556.000	96
	464	2031	006	RC PIPE (CL IV)(66 IN) DOLLARS and CENTS	LF	195.000	97

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	ITEM NO	DESC CODE	S.P. NO.				
	465	2001	001	INLET (COMPL)(TY C) DOLLARS and CENTS	EA	10.000	98
	465	2010	001	INLET (COMPL)(TY AAD) DOLLARS and CENTS	EA	1.000	99
	465	2011	001	INLET (COMPL)(TY AD) DOLLARS and CENTS	EA	2.000	100
	465	2012	001	INLET (COMPL)(TY A) DOLLARS and CENTS	EA	4.000	101
	465	2013	001	MANH (COMPL)(TY A) DOLLARS and CENTS	EA	23.000	102
	465	2098	001	INLET (COMPL)(TY C1) DOLLARS and CENTS	EA	10.000	103
	465	2104	001	INLET EXT DOLLARS and CENTS	EA	6.000	104
	465	2180	001	INLET (COMPL)(TY AZR) 2 GRATES DOLLARS and CENTS	EA	5.000	105
	465	2255	001	INLET (COMP)(TY AZ2G) DOLLARS and CENTS	EA	15.000	106
	465	2589	001	INLET (COMPL) (BRIDGE DECK DRAIN)) DOLLARS and CENTS	EA	7.000	107
	471	2003		GRATE & FRAME DOLLARS and CENTS	EA	7.000	108

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	ITEM NO	DESC CODE	S.P. NO.				
	479	2007		ADJ MANH (CAP) DOLLARS and CENTS	EA	1.000	109
	481	2013		PVC PIPE (SCH 40)(8 IN) DOLLARS and CENTS	LF	403.000	110
	481	2014		PVC PIPE (SCH 40)(10 IN) DOLLARS and CENTS	LF	756.000	111
	483	2001		SCARIFY CONC BRIDGE SLAB DOLLARS and CENTS	SY	165.200	112
	496	2002		REMOV STR (INLET) DOLLARS and CENTS	EA	23.000	113
	496	2003		REMOV STR (MANHOLE) DOLLARS and CENTS	EA	11.000	114
	496	2005		REMOV STR (WINGWALL) DOLLARS and CENTS	EA	2.000	115
	496	2007		REMOV STR (PIPE) DOLLARS and CENTS	LF	400.000	116
	496	2018		REMOVE STR (CONC) DOLLARS and CENTS	EA	7.000	117
	496	2030		REMOVE STR (BOLLARD) DOLLARS and CENTS	EA	6.000	118
	496	2072		REMOV STR (LIGHT BRACKET) DOLLARS and CENTS	EA	24.000	119

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	ITEM NO	DESC CODE	S.P. NO.				
	500	2001	011	MOBILIZATION DOLLARS and CENTS	LS	1.000	120
	502	2001	033	BARRICADES, SIGNS AND TRAFFIC HANDLING DOLLARS and CENTS	MO	31.000	121
	508	2002		CONSTRUCTING DETOURS DOLLARS and CENTS	SY	548.000	122
	512	2005	002	PORT CTB (FUR & INST)(SNGL SLP)(TY 2) DOLLARS and CENTS	LF	6,690.000	123
	512	2017	002	PORT CTB (DES SOURCE)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	5,420.000	124
	512	2018	002	PORT CTB (DES SOURCE)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	340.000	125
	512	2026	002	PORT CTB (MOVE)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	3,630.000	126
	512	2027	002	PORT CTB (MOVE)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	40.000	127
	512	2035	002	PORT CTB (STKPL)(LOW PROF)(TY 1) DOLLARS and CENTS	LF	4,680.000	128
	512	2036	002	PORT CTB (STKPL)(LOW PROF)(TY 2) DOLLARS and CENTS	LF	320.000	129

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	512	2041	002	PORT CTB (REMOVE)(SNGL SLP) (TY 2) DOLLARS and CENTS	LF	6,690.000	130
	512	2059	002	PORT CTB (DES SOURCE)(SNGL SLP)(TY J-J) DOLLARS and CENTS	LF	15,490.000	131
	512	2060	002	PORT CTB (MOVE)(SNGL SLP)(TY J-J) DOLLARS and CENTS	LF	5,300.000	132
	512	2061	002	PORT CTB (STKPL)(SNGL SLP)(TY J-J) DOLLARS and CENTS	LF	8,940.000	133
	529	2006		CONC CURB (MONO) (TY II) DOLLARS and CENTS	LF	12,246.000	134
	529	2070		CONCRETE CURB (TYPE U-TURN)(SPECIAL) DOLLARS and CENTS	LF	1,296.000	135
	530	2010	006	DRIVEWAYS (CONC) DOLLARS and CENTS	SY	1,637.800	136
	531	2005	006	CURB RAMPS (TY 1) DOLLARS and CENTS	EA	4.000	137
	531	2010	006	CURB RAMPS (TY 7) DOLLARS and CENTS	EA	8.000	138
	531	2017	006	CURB RAMPS (TY 21) DOLLARS and CENTS	EA	2.000	139
	531	2024	006	CONC SIDEWALK (5") DOLLARS and CENTS	SY	2,298.000	140

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	ITEM NO	DESC CODE	S.P. NO.				
	540	2001	031	MTL W-BEAM GD FEN (TIM POST) DOLLARS and CENTS	LF	845.000	141
	540	2005	031	TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	1.000	142
	540	2011	031	MTL BEAM GD FEN TRANS (THRIE-BEAM) DOLLARS and CENTS	EA	5.000	143
	540	2012	031	MTL BEAM GD FEN TRANS (TL2) DOLLARS and CENTS	EA	2.000	144
	540	2044	031	DOWNSTREAM ANCHOR TERMI-NAL(DAT)SECTION DOLLARS and CENTS	EA	1.000	145
	540	2046	031	MTL BM GD FEN TRANS (NON-SYM) DOLLARS and CENTS	EA	1.000	146
	542	2001		REMOVING METAL BEAM GUARD FENCE DOLLARS and CENTS	LF	2,044.000	147
	542	2002		REMOVING TERMINAL ANCHOR SECTION DOLLARS and CENTS	EA	2.000	148
	544	2001	001	GUARDRAIL END TREATMENT (INSTALL) DOLLARS and CENTS	EA	9.000	149
	544	2003	001	GUARDRAIL END TREATMENT (REMOVE) DOLLARS and CENTS	EA	1.000	150

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	ITEM NO	DESC CODE	S.P. NO.				
	545	2092		CRASH CUSH ATTEN (INSTL)(R)(W)(TL3) DOLLARS and CENTS	EA	2.000	151
	545	2094		CRASH CUSH ATTEN (INSTL)(S)(N)(TL2) DOLLARS and CENTS	EA	2.000	152
	545	2095		CRASH CUSH ATTEN (INSTL)(S)(N)(TL3) DOLLARS and CENTS	EA	6.000	153
	545	2100		CRASH CUSHION ATTENUATOR (MOVE & RESET) DOLLARS and CENTS	EA	1.000	154
	545	2101		CRASH CUSHION ATTENUATOR (REMOVE) DOLLARS and CENTS	EA	8.000	155
	550	2003		CHAIN LINK FENCE (REMOVE) DOLLARS and CENTS	LF	505.000	156
	550	2006		GATE (REMOVE) DOLLARS and CENTS	EA	1.000	157
	610	2060	015	INS RD IL AM (U/P) (TY 1) (.15KW)S DOLLARS and CENTS	EA	14.000	158
	618	2018		CONDT (PVC) (SCHD 40) (2") DOLLARS and CENTS	LF	655.000	159
	618	2019		CONDT (PVC) (SCHD 40) (2") (BORE) DOLLARS and CENTS	LF	60.000	160

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	ITEM NO	DESC CODE	S.P. NO.				
	618	2022		CONDT (PVC) (SCHD 40) (3") DOLLARS and CENTS	LF	40.000	161
	618	2024		CONDT (PVC) (SCHD 40) (4") DOLLARS and CENTS	LF	455.000	162
	618	2025		CONDT (PVC) (SCHD 40) (4") (BORE) DOLLARS and CENTS	LF	1,020.000	163
	618	2048		CONDT (RM) (1 1/4") DOLLARS and CENTS	LF	850.000	164
	620	2007	001	ELEC CONDR (NO. 4) BARE DOLLARS and CENTS	LF	80.000	165
	620	2008	001	ELEC CONDR (NO. 4) INSULATED DOLLARS and CENTS	LF	160.000	166
	620	2009	001	ELEC CONDR (NO. 6) BARE DOLLARS and CENTS	LF	365.000	167
	620	2010	001	ELEC CONDR (NO. 6) INSULATED DOLLARS and CENTS	LF	730.000	168
	620	2011	001	ELEC CONDR (NO. 8) BARE DOLLARS and CENTS	LF	2,435.000	169
	620	2015	001	ELEC CONDR (NO.12) BARE DOLLARS and CENTS	LF	815.000	170
	620	2016	001	ELEC CONDR (NO.12) INSULATED DOLLARS and CENTS	LF	1,630.000	171

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	ITEM NO	DESC CODE	S.P. NO.				
	624	2004	014	GROUND BOX TY 2 (243636) W/APRON DOLLARS and CENTS	EA	19.000	172
	628	2063	003	ELC SRV TY D 120/240 060 (NS)GS(N)SP(O) DOLLARS and CENTS	EA	1.000	173
	636	2001	014	ALUMINUM SIGNS (TY A) DOLLARS and CENTS	SF	84.000	174
	636	2002	014	ALUMINUM SIGNS (TY G) DOLLARS and CENTS	SF	120.000	175
	636	2003	014	ALUMINUM SIGNS (TY O) DOLLARS and CENTS	SF	2,641.000	176
	644	2001		IN SM RD SN SUP&AM TY10BWG(1)SA(P) DOLLARS and CENTS	EA	8.000	177
	644	2004		IN SM RD SN SUP&AM TY10BWG(1)SA(T) DOLLARS and CENTS	EA	34.000	178
	644	2025		IN SM RD SN SUP&AM TYS80(1)SA(T) DOLLARS and CENTS	EA	6.000	179
	644	2027		IN SM RD SN SUP&AM TYS80(1)SA(U) DOLLARS and CENTS	EA	2.000	180
	644	2028		IN SM RD SN SUP&AM TYS80(1)SA(U-1EXT) DOLLARS and CENTS	EA	3.000	181
	644	2029		IN SM RD SN SUP&AM TYS80(1)SA(U-2EXT) DOLLARS and CENTS	EA	2.000	182

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	644	2056		RELOCATE SM RD SN SUP & AM TY 10BWG DOLLARS and CENTS	EA	3.000	183
	644	2060		REMOVE SM RD SN SUP & AM DOLLARS and CENTS	EA	35.000	184
	650	2028		INS OH SN SUP(30 FT CANT) DOLLARS and CENTS	EA	2.000	185
	650	2034		INS OH SN SUP(35 FT CANT) DOLLARS and CENTS	EA	1.000	186
	650	2040		INS OH SN SUP(40 FT CANT) DOLLARS and CENTS	EA	1.000	187
	650	2068		INS OH SN SUP(65 FT BRDG) DOLLARS and CENTS	EA	1.000	188
	650	2167		INS OH SN SUP(180 FT BRDG) DOLLARS and CENTS	EA	1.000	189
	650	2172		RELOCATE EXISTING OVERHD SIGN SUP DOLLARS and CENTS	EA	1.000	190
	650	2173		REMOVE OVERHD SIGN SUP DOLLARS and CENTS	EA	5.000	191
	658	2258	006	INSTL DEL ASSM (D-SW)SZ (TYC)CTB DOLLARS and CENTS	EA	49.000	192
	658	2277	006	INSTL DEL ASSM (D-SY)SZ (TYC)CTB DOLLARS and CENTS	EA	47.000	193

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	658	2292	006	INSTL DEL ASSM (D-DW)SZ 1(FLX)GND DOLLARS and CENTS	EA	15.000	194
	658	2329	006	INSTL DEL ASSM (D-SW)SZ 1(FLX)GND DOLLARS and CENTS	EA	12.000	195
	662	2056		WK ZN PAV MRK REMOV (REFL) TY II-C-R DOLLARS and CENTS	EA	538.000	196
	662	2064		WK ZN PAV MRK REMOV (W) 4" (BRK) DOLLARS and CENTS	LF	6,786.000	197
	662	2067		WK ZN PAV MRK REMOV (W) 4" (SLD) DOLLARS and CENTS	LF	15,761.000	198
	662	2075		WK ZN PAV MRK REMOV (W) 8" (SLD) DOLLARS and CENTS	LF	2,675.000	199
	662	2079		WK ZN PAV MRK REMOV (W) 24" (SLD) DOLLARS and CENTS	LF	108.000	200
	662	2099		WK ZN PAV MRK REMOV (Y) 4" (SLD) DOLLARS and CENTS	LF	20,783.000	201
	666	2183	014	REF PAV MRK TY II (Y) 12" (SLD) DOLLARS and CENTS	LF	275.000	202
	668	2106		PREFAB PAV MRK TY C (W) (ARROW) DOLLARS and CENTS	EA	21.000	203
	668	2107		PREFAB PAV MRK TY C (W) (DBL ARROW) DOLLARS and CENTS	EA	7.000	204

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	668	2115		PREFAB PAV MRK TY C (W) (UTURN ARROW) DOLLARS and CENTS	EA	2.000	205
	668	2116		PREFAB PAV MRK TY C (W) (WORD) DOLLARS and CENTS	EA	22.000	206
	668	2136		PREFAB PAV MRK (TY C)(MULTI)(SHIELD) DOLLARS and CENTS	EA	15.000	207
	668	2145		PREFAB PAV MRK TY C (W) (NUMBER) DOLLARS and CENTS	EA	3.000	208
	672	2012	034	REFL PAV MRKR TY I-C DOLLARS and CENTS	EA	21.000	209
	672	2015	034	REFL PAV MRKR TY II-A-A DOLLARS and CENTS	EA	5.000	210
	672	2017	034	REFL PAV MRKR TY II-C-R DOLLARS and CENTS	EA	1,486.000	211
	672	2024	034	TRAFFIC BUTTON TY W DOLLARS and CENTS	EA	56.000	212
	677	2001		ELIM EXT PAV MRK & MRKS (4") DOLLARS and CENTS	LF	39,299.000	213
	677	2003		ELIM EXT PAV MRK & MRKS (8") DOLLARS and CENTS	LF	4,451.000	214
	677	2005		ELIM EXT PAV MRK & MRKS (12") DOLLARS and CENTS	LF	1,011.000	215

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	677	2008		ELIM EXT PAV MRK & MRKS (ARROW) DOLLARS and CENTS	EA	2.000	216
	677	2010		ELIM EXT PAV MRK & MRKS (ENTR GORE) DOLLARS and CENTS	EA	1.000	217
	677	2018		ELIM EXT PAV MRK & MRKS (WORD) DOLLARS and CENTS	EA	2.000	218
	678	2002		PAV SURF PREP FOR MRK (6") DOLLARS and CENTS	LF	37,402.000	219
	678	2003		PAV SURF PREP FOR MRK (8") DOLLARS and CENTS	LF	3,882.000	220
	678	2004		PAV SURF PREP FOR MRK (12") DOLLARS and CENTS	LF	6,173.000	221
	678	2007		PAV SURF PREP FOR MRK (ARROW) DOLLARS and CENTS	EA	21.000	222
	678	2008		PAV SURF PREP FOR MRK (DBL ARROW) DOLLARS and CENTS	EA	7.000	223
	678	2016		PAV SURF PREP FOR MRK (UTURN ARR) DOLLARS and CENTS	EA	2.000	224
	678	2018		PAV SURF PREP FOR MRK (WORD) DOLLARS and CENTS	EA	22.000	225
	678	2025		PAV SURF PREP FOR MRKS (SHIELD) DOLLARS and CENTS	EA	15.000	226

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	678	2044		PAV SURF PREP FOR MRK (NUMBER) DOLLARS and CENTS	EA	3.000	227
	680	2002		INSTALL HWY TRF SIG (ISOLATED) DOLLARS and CENTS	EA	1.000	228
	682	2001	003	BACK PLATE (12 IN) (3 SEC) DOLLARS and CENTS	EA	17.000	229
	682	2002	003	BACK PLATE (12 IN) (4 SEC) DOLLARS and CENTS	EA	2.000	230
	682	2022	003	VEH SIG SEC (12 IN) LED (GRN ARW) DOLLARS and CENTS	EA	2.000	231
	682	2023	003	VEH SIG SEC (12 IN) LED (GRN) DOLLARS and CENTS	EA	17.000	232
	682	2024	003	VEH SIG SEC (12 IN) LED (YEL ARW) DOLLARS and CENTS	EA	2.000	233
	682	2025	003	VEH SIG SEC (12 IN) LED (YEL) DOLLARS and CENTS	EA	17.000	234
	682	2026	003	VEH SIG SEC (12 IN) LED (RED ARW) DOLLARS and CENTS	EA	4.000	235
	682	2027	003	VEH SIG SEC (12 IN) LED (RED) DOLLARS and CENTS	EA	17.000	236
	684	2029		TRF SIG CBL (TY A) (14 AWG) (3 CONDR) DOLLARS and CENTS	LF	3,045.000	237

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	684	2031		TRF SIG CBL (TY A) (14 AWG) (5 CONDR) DOLLARS and CENTS	LF	3,745.000	238
	684	2033		TRF SIG CBL (TY A) (14 AWG) (7 CONDR) DOLLARS and CENTS	LF	4,930.000	239
	684	2080		TRF SIG CBL (TY C) (14 AWG) (2 CONDR) DOLLARS and CENTS	LF	10,500.000	240
	686	2043		INS TRF SIG PL AM(S) 1 ARM (44’) DOLLARS and CENTS	EA	2.000	241
	686	2143		INS TRF SIG PL AM(S) 2 ARM (40-36’) DOLLARS and CENTS	EA	1.000	242
	687	2001	005	PED POLE ASSEMBLY DOLLARS and CENTS	EA	10.000	243
	688	2002		VEH LP DETECT (SAWCUT) DOLLARS and CENTS	LF	2,814.000	244
	730	2113	009	FULL-WIDTH MOWING DOLLARS and CENTS	CYC	8.000	245
	734	2002	002	LITTER REMOVAL DOLLARS and CENTS	CYC	15.000	246
	735	2132	001	DEBRIS REMOVAL (STREET) DOLLARS and CENTS	CYC	15.000	247
	738	2224	001	CLEANING/SWEEPING (STREET) DOLLARS and CENTS	CYC	20.000	248

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	752	2022	001	TREE REMOVAL (4"-12" DIA) DOLLARS and CENTS	EA	11.000	249
	1122	2016	001	CONSTRUCTION EXITS (INSTALL) (TY 1) DOLLARS and CENTS	SY	200.000	250
	1122	2019	001	CONSTRUCTION EXITS (REMOVE) DOLLARS and CENTS	SY	200.000	251
	1122	2037	001	TEMPORARY SEDIMENT CONTROL FENCE INSTLL DOLLARS and CENTS	LF	150.000	252
	1122	2047	001	BIOGRD EROSN CONT LOGS (8" DIA) INSTALL DOLLARS and CENTS	LF	2,300.000	253
	1122	2048	001	BIOGRD EROSN CONT LOGS (12" DIA)INSTALL DOLLARS and CENTS	LF	600.000	254
	1122	2056	001	BIODEGRADBLE EROSION CONTROL LOGS REMOV DOLLARS and CENTS	LF	2,900.000	255
	1122	2057	001	TEMPORARY SEDIMENT CONTROL FENCE REMOVE DOLLARS and CENTS	LF	150.000	256
	3061	2004		FAST TRK CONC(CONT REINF HY STL)(13") DOLLARS and CENTS	SY	5,508.000	257

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	4116	2001		SOIL NAIL ANCHORS DOLLARS and CENTS	LF	1,400.000	258
	5050	2002		CTB CONNECT HDWARE DOLLARS and CENTS	EA	385.000	259
	5893	2007		ADJUST MANHOLE (SANITARY SEWER) DOLLARS and CENTS	EA	3.000	260
	5969	2002		WATER MAIN PIPE (PVC)(6IN) DOLLARS and CENTS	LF	35.000	261
	5969	2005		WATER MAIN PIPE (PVC)(8IN) DOLLARS and CENTS	LF	540.000	262
	5969	2006		WATER MAIN PIPE (PVC)(12IN) DOLLARS and CENTS	LF	160.000	263
	5969	2011		WATER MAIN PIPE (STL)(12IN) DOLLARS and CENTS	LF	53.000	264
	5969	2021		WATER MAIN PIPE (STL)(24IN) DOLLARS and CENTS	LF	160.000	265
	5969	2040		CUT AND PLUG WATER MAIN (6IN) DOLLARS and CENTS	EA	1.000	266
	5969	2041		CUT AND PLUG WATER MAIN (8IN) DOLLARS and CENTS	EA	1.000	267
	5969	2043		CUT AND PLUG WATER MAIN (12IN) DOLLARS and CENTS	EA	2.000	268

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	5969	2048		CUT AND PLUG WATER MAIN (24IN) DOLLARS and CENTS	EA	2.000	269
	5969	2074		WET CONNECTION (6IN) DOLLARS and CENTS	EA	1.000	270
	5969	2075		WET CONNECTION (12IN) DOLLARS and CENTS	EA	2.000	271
	5969	2079		WET CONNECTION (24IN) DOLLARS and CENTS	EA	2.000	272
	5969	2085		FIRE HYDRANT DOLLARS and CENTS	EA	4.000	273
	5969	2086		FIRE HYDRANT LEAD (6IN)(PVC) DOLLARS and CENTS	LF	18.000	274
	5969	2087		REMOVING AND SALVAGING FIRE HYDRANT DOLLARS and CENTS	EA	4.000	275
	5969	2134		WET CONNECTION (8IN) DOLLARS and CENTS	EA	1.000	276
	6007	2001		REMOVING TRAFFIC SIGNALS DOLLARS and CENTS	EA	1.000	277
	6008	2002		REMOVE OVERHEAD SIGN PANELS DOLLARS and CENTS	EA	10.000	278

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	6473	2002	001	MULTIPOLYMER PAV MRK (W)(4")(BRK) DOLLARS and CENTS	LF	140.000	279
	6473	2004	001	MULTIPOLYMER PAV MRK (W)(6")(SLD) DOLLARS and CENTS	LF	18,806.000	280
	6473	2005	001	MULTIPOLYMER PAV MRK (W)(6")(BRK) DOLLARS and CENTS	LF	11,610.000	281
	6473	2006	001	MULTIPOLYMER PAV MRK (W)(6")(DOT) DOLLARS and CENTS	LF	88.000	282
	6473	2007	001	MULTIPOLYMER PAV MRK (W)(8")(SLD) DOLLARS and CENTS	LF	6,524.000	283
	6473	2009	001	MULTIPOLYMER PAV MRK (W)(12")(SLD) DOLLARS and CENTS	LF	5,657.000	284
	6473	2010	001	MULTIPOLYMER PAV MRK (W)(12")(LNDP) DOLLARS and CENTS	LF	1,749.000	285
	6473	2014	001	MULTIPOLYMER PAV MRK (Y)(6")(SLD) DOLLARS and CENTS	LF	19,510.000	286
	6473	2020	001	MULTIPOLYMER PAV MRK (BLK)(6")(BRK) DOLLARS and CENTS	LF	11,470.000	287
	6473	2021	001	MULTIPOLYMER PAV MRK (W)(24")(SLD) DOLLARS and CENTS	LF	191.000	288
	6834	2001	002	PORTABLE CHANGEABLE MESSAGE SIGN DOLLARS and CENTS	DAY	400.000	289

ALT	ITEM-CODE			UNIT BID PRICE ONLY. WRITTEN IN WORDS	UNIT	APPROX QUANTITIES	DEPT USE ONLY
	ITEM NO	DESC CODE	S.P. NO.				
	8260	2002		LED COUNTDOWN PED SIGNAL MOD W/ HOUSING DOLLARS and CENTS	EA	16.000	290
	8835	2001		ACCESSIBLE PEDESTRIAN SIGNAL UNITS DOLLARS and CENTS	EA	14.000	291

General Notes:
General:

RAP generated by this project will become the property of the Contractor for use in the current construction project or in future projects.

If fixed features require, the governing slopes shown may vary between the limits shown and to the extent determined by the Engineer.

Superelevate the curves to match the existing surface.

Notify the Engineer immediately if discrepancies are discovered in the horizontal control or the benchmark data.

The following standard detail sheets are modified:

Modified Standards

Overhead Sign Bridge Walls: COSS & OSB-SZ(MOD)
Prestressed Concrete I-Girder Design: IGND (MOD)
Prestressed Concrete Slab Beams: PSBND (MOD)
Thickened Slab End Details: IGTS (MOD)
Common Foundation Details: FD (MOD)
Traffic Signal Pole Foundation: TS-FD-12

References to manufacturer's trade name or catalog numbers are for the purpose of identification only. Similar materials from other manufacturers are permitted if they are of equal quality, comply with the specifications for this project, and are approved, except for roadway illumination, electrical, and traffic signal items.

The cost for materials, labor, and incidentals to provide for traffic across the roadway and for ingress and egress to private property in accordance with Section 7.7 of the standard specifications is subsidiary to the various bid items. Restore access roadways to their original condition upon completing construction.

Grade street intersections and median openings for surface drainage.

If a foundation is to be placed where a riprap surface or an asphalt concrete surface presently exists, use caution in breaking out the existing surface for placement. Break out no greater area than is required to place the foundation. After placing the foundation, wrap the periphery with 0.5 in. pre-molded mastic expansion joint. Then replace the remaining portion of the broken out surface with Class A or Class C concrete or cold mix asphalt concrete to the exact slope, pattern, and thickness of the existing riprap or asphalt. Payment for breaking out the existing surface, wrapping the foundation, and replacing the surface is subsidiary to the various bid items.

The lengths of the posts for ground mounted signs and the tower legs for the overhead sign supports are approximate. Verify the lengths before ordering these materials to meet the existing field conditions and to conform to the minimum sign mounting heights shown in the plans.

Furnish aluminum Type A signs instead of plywood signs for signs shown on the Summary of Small Signs sheet.

Stencil the National Bridge Inventory (NBI) number on each existing bridge shown on these plans. The NBI number is shown above the title block for each bridge layout.

Clearly mark or highlight on the shop drawings, the items being furnished for this project. Submit required shop drawings in accordance with the shop drawing distribution list shown in the note for Item 5 for review and distribution.

Right of way parcels or utility adjustments shown to be unclear on the plans but not listed on the special provisions will have no effect on construction.

Request additional soil information for this project at the Area Engineer's office.

Procure permits and licenses, which are to be issued by the City, County, or Municipal Utility District.

The existing bridge located at IH 45 at Woodridge Road has been tested for Asbestos Containing Materials (ACM) and found to contain 1% or less ACM. No mitigation was required.

The existing bridge at IH 610 at Broad Street has been tested for Asbestos Containing Materials (ACM) and found to contain greater than 1% ACM and will be abated during construction. The ACM were found in the following areas: bridge rail. Please refer to the copy of the report: Asbestos and Lead Testing Report, Bridge at I-610 at Broad Street, Harris County, Texas, CSJ:0500-03-573, NBI: 12-102-A-0271-16-480, dated November 5, 2013 by Honesty Environmental Services, Inc." For work on this location, notify the Engineer of proposed dates of removal of structural elements with ACM at least 60 days before work is to begin in this area to allow the State sufficient time to abate the asbestos. Coordinate the overall work with the Specialty Contractor who performs the abating work.

The existing bridge at IH 610 at Telephone Road has been tested for Asbestos Containing Materials (ACM) and found to contain greater than 1% ACM and will be abated during construction. The ACM were found in the following areas: bridge rail, columns. Please refer to the copy of the report: Asbestos and Lead Testing Report, Bridge at I-610 at Telephone Road, Harris County, Texas, CSJ:0500-03-573, NBI: 12-102-A-0271-16-489, dated November 5, 2013 by Honesty Environmental Services, Inc." For work on this location, notify the Engineer of proposed dates of removal of structural elements with ACM at least 60 days before work is to begin in this area to allow the State sufficient time to abate the asbestos. Coordinate the overall work with the Specialty Contractor who performs the abating work.

Any groundwater elevation information provided is representative of conditions existing on the day when and for the specific location where this information was collected. The actual groundwater elevation may fluctuate with time, climatic conditions, and construction activity.

General: Roadway Illumination and Electrical

For roadway illumination and electrical items, use materials from pre-qualified producers as shown on the Construction Division (CST) of the Department's material producers list. Check the latest link on the TxDOT webite for this list. The category/item is "Roadway Illumination and Electrical Supplies." No substitutions will be allowed for materials found on this list.

Perform electrical work in conformance with the National Electrical Code (NEC) and Department standard sheets.

The Contractor may make the electrical grounding connections and permissible splices using the thermal fusion process, Cadweld, ThermOweld or approved equal, instead of bolted connections and splices.

The Area Engineer will arrange with the Contractor, an inspection of the completed electrical systems for the highway lighting systems before final acceptance for compliance with plans and specifications. The inspection will be made with personnel from the electrical section of the Department's District Transportation Operations Office. The city's electrical division personnel will also inspect lighting systems within the city limits. Portions of the work found to be deficient during this inspection will not be accepted.

General: Traffic Signals

For traffic signal items, use materials from pre-qualified producers as shown on the General Services Division (GSD) of the Department's material producers list. Check the latest links on the TxDOT website for this list, including (but not limited to): http://www.txdot.gov/txdot_library/consultants_contractors/publications/purchasing_specifications.htm under "Supplemental Specifications and Attachments." No substitutions will be allowed for materials found on this list.

General: Site Management

Mark stations every 100 ft. and maintain the markings for the project duration. Remove the station markings at the completion of the project. This work is subsidiary to the various bid items.

Do not mix or store materials, or store or repair equipment, on top of concrete pavement or bridge decks unless authorized by the Engineer. Permission will be granted to store materials on surfaces if no damage or discoloration will result.

Personal vehicles of employees are not permitted to park within the right of way, including sections closed to public traffic. Employees may park on the right of way at the Contractor's office, equipment, and materials storage yard sites.

Assume ownership of debris and dispose of at an approved location. Do not dispose of debris on private property unless approved in writing by the District Engineer.

Control the dust caused by construction operations. For sweeping the base material in preparation for laying asphalt and for sweeping the finished concrete pavement, use one of the following types of sweepers or equal:

Tricycle Type	**Truck Type - 4 Wheel**
Wayne Series 900	M-B Cruiser II
Elgin White Wing	Wayne Model 945
Elgin Pelican	Mobile TE-3
	Mobile TE-4
	Murphy 4042

General: Traffic Control and Construction

Schedule construction operations such that preparing individual items of work follows in close sequence to constructing storm drains in order to provide as little inconvenience as practical to the businesses and residents along the project.

Schedule work so that the base placement operations follow the subgrade work as closely as practical to reduce the hazard to the traveling public and to prevent undue delay caused by wet weather.

If fences cross construction easements shown on the plans and work is required beyond the fences, remove and replace the fences as directed. This work and the materials are subsidiary to the various bid items.

When design details are not shown on the plans, provide signs and arrows conforming to the latest "Standard Highway Sign Designs for Texas" manual.

General: Utilities

Consider the locations of underground utilities depicted in the plans as approximate and employ responsible care to avoid damaging utility facilities. Depending upon scope and magnitude of planned construction activities, advanced field confirmation by the utility owner or operator may be prudent. Where possible, protect and preserve permanent signs, markers, and designations of underground facilities.

If the Contractor damages or causes damage (breaks, leaks, nicks, dents, gouges, etc.) to the utility, contact the utility facility owner or operator immediately.

Be aware that an operational Computerized Transportation Management System (CTMS) exists within the limits of this project and that the system must remain operational throughout construction. If the Contractor damages or cause damage to this system, repair such damage within 8 hours of occurrence at no cost to the Department. In the event of system damage, notify the TxDOT Houston District Maintenance Office (Mr. David Fink at 713-881-3063) within one hour of occurrence. Failure of the Contractor to repair damage to the main fiber optic cable and CCTV cable trunk lines, which convey all corridor information to TranStar, will result in the Contractor being billed for the full cost of emergency repairs.

At least 48 hours before starting work, make arrangements for locating existing Department-owned above ground and underground fiber optic, communications, power, illumination, and traffic signal cabling and conduit. Do this by calling the Department's Houston District Traffic Signal Operations Office at 713-802-5662 to schedule marking of underground lines on the ground. Use caution if working in these areas to avoid damaging or interfering with existing facilities.

Notify the Engineer at least 48 hours before constructing junction boxes at storm drain and utility intersections.

Install or remove poles and luminaires located near overhead or underground electrical lines using established industry and utility safety practices. Consult the appropriate utility company before beginning such work.

If overhead or underground power lines need to be de-energized, contact the electrical service provider to perform this work. Costs associated with de-energizing the power lines or other protective measures required are at no expense to the Department.
If working near power lines, comply with the appropriate sections of Texas State Law and Federal Regulations relating to the type of work involved.

Perform electrical work in conformance with the National Electrical Code (NEC) and Department standard sheets.

Before beginning any underground work, notify the City of Houston's Chief Inspector, Public Works and Engineering, at (713) 859-3371 to establish the locations of any existing electrical systems for lighting facilities within the limits of this project.

Item 5: Control of the Work

Before contract letting, electronically generated earthwork cross-section data will be furnished free of charge to the prospective bidders on a compact high-density disk, in an ASCII print format. This will be available through the Association of General Contractors bulletin board service or through the Area Engineer's office. If the earthwork data is not available electronically, reproducible earthwork cross sections are available at the Area Engineer's office for borrowing by copying service companies for the purpose of making copies for the prospective bidders, at the prospective bidder's expense. The earthwork cross-section data provided above is for non-construction purposes only and it is the responsibility of the prospective bidder to validate the enclosed data with the appropriate plans, specifications, and estimates for the projects.

Submit shop drawings electronically for the fabrication of items as documented in Table 1 below. Information and requirements for electronic submittals can be viewed in the "Guide to Electronic Shop Drawing Submittal" which can be accessed through the following web link, ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/bridge/e_submit_guide.pdf. References to 11 in. x 17 in. sheets in individual specifications for structural items imply electronic CAD sheets.

Table 1

2004 Construction Specification Required Shop/Working Drawing Submittals

Spec Item No.'s	Product	Submittal Required	Approval Required (Y/N)	Contractor/ Fabricator P.E. Seal Required	Reviewing Party
7.8	Construction Load Analyses	Y	Y	Y	B
400	Excavation and Backfill for Structures (cofferdams)	Y	N	Y	A
403	Temporary Special Shoring	Y	N	Y	B
420	Formwork/Falsework	Y	N	Y	A
423	Retaining Walls, (calcs req'd.)	Y	Y	Y	C
425	Optional Design Calculations (Prstrs Bms)	Y	Y	Y	B
425	Prestr Concr Sheet Piling	Y	Y	N	B
425	Prestr Concr Beams	Y	Y	N	B
425	Prestr Concr Bent	Y	Y	N	B
426	Post Tension Details	Y	Y	N	B
434	Elastomeric Bearing Pads (All)	Y	Y	N	B
441	Bridge Protective Assembly	Y	Y	N	B
441	Misc Steel (various steel assemblies)	Y	Y	N	B
441	Steel Pedestals (bridge raising)	Y	Y	N	B
441	Steel Bearings	Y	Y	N	B
441	Steel Bent	Y	Y	N	B
441	Steel Diaphragms	Y	Y	N	B
441	Steel Finger Joint	Y	Y	N	B
441	Steel Plate Girder	Y	Y	N	B
441	Steel Tub-Girders	Y	Y	N	B
441	Erection Plans	Y	N	Y	A
449	Sign Structure Anchor Bolts	Y	Y	N	T
450	Railing	Y	Y	N	A
462	Concrete Box Culvert	Y	Y	N	C
462	Concrete Box Culvert (Alternate Designs Only,calcs reqd.)	Y	Y	Y	B
464	Reinforced Concrete Pipe (Jack and Bore only; ONLY when requested)	Y	Y	Y	A
465	Pre-cast Junction Boxes, Grates, and Inlets	Y	Y	N	A
465	Pre-cast Junction Boxes, Grates, and Inlets (Alternate Designs Only, calcs req'd.)	Y	Y	Y	B
466	Pre-cast Headwalls and Wingwalls	Y	Y	N	A
467	Pre-cast Safety End Treatments	Y	Y	N	A
495	Raising Existing Structure (calcs reqd.)	Y	Y	Y	B
610	Roadway Illumination Supports (Non-Standad only, cals reqd.)	Y	Y	Y	T
613	High Mast Illumination Poles (Non-standard only, calcs reqd.)	Y	Y	Y	T
627	Treated Timber Poles	Y	Y	N	T
644	Special Non-Standard Supports (Bridge Mounts, Barrier Mounts, Etc.)	Y	Y	Y	T
647	Large Roadside Sign Supports	Y	Y	Y	T
650	Cantilever Sign Structure Supports - Alternate Design Cacls.	Y	Y	Y	T
650	Sign Structures	Y	Y	N	T
652	Highway Sign Lighting Fixtures	Y	Y	N	T
654	Sign Walkways	Y	Y	N	T
680	Installation of Highway Traffic Signals	Y	Y	N	T
682	Vehicle and Pedestrian Signal Heads	Y	Y	N	T

684	Traffic Signal Cables	Y	Y	N	T
685	Roadside Flashing Beacon Assemblies	Y	Y	N	T
686	Traffic Signal Pole Assemblies (Steel) (Non-Standard only)	Y	Y	Y	T
687	Pedestal Pole Assemblies	Y	Y	N	T
688	Detectors	Y	Y	N	A
784	Repairing Steel Bridge Members	Y	Y	Y	B
SS	Prestr Concr Crown Span	Y	Y	N	B
SS	Sound Barrier Walls	Y	Y	N	B
SS	Camera Poles	Y	Y	Y	TMS
SS	Pedestrian Bridge (Calcs req'd.)	Y	Y	Y	B
SS	Screw-In Type Anchor Foundations	Y	Y	N	T
SS	Fiber Optic/Communication Cable	Y	Y	N	TMS
SS	Spread Spectrum Radios for Signals	Y	Y	N	T
SS	VIVDS System for Signals	Y	Y	N	T
SS	CTMS Equipment	Y	Y	N	TMS

Key to Reviewing Party

A - Area Office

Area Office	Email Address
Southeast Area Area Office	HOU-SEHAShpDrwgs@txdot.gov
Traffic Systems Construction Office	HOU-TSCShpDrwgs@txdot.gov

B - Bridge Engineer

Bridge Design (TxDOT)	HOU-BrgShpDrwgs@txdot.gov

C - Construction Office

Construction	HOU-ConstrShpDrwgs@txdot.gov
Laboratory	HOU-LabShpDrwgs@txdot.gov

T - Traffic Engineer

Traffic Operations	HOU-TrfShpDrwgs@txdot.gov

TMS – Traffic Management System

Computerized Traffic Management Systems (CTMS)	HOU-CTMSShpDrwgs@txdot.gov

Item 7: Legal Relations and Responsibilities

Do not initiate activities in a Project Specific Location (PSL), associated with a U.S. Army Corps of Engineers (USACE) permit area, that have not been previously evaluated by the USACE as part of the permit review of this project. Such activities include those pertaining to, but are not limited to, haul roads, equipment staging areas, borrow and disposal sites. Associated defined here means materials are delivered to or from the PSL. The permit area includes the waters of the U.S. or associated wetlands affected by activities associated with this project. Special restrictions may be required for such work. Assume responsibility for consultations with the USACE regarding activities, including PSLs that have not been previously evaluated by the USACE. Provide the Department with a copy of consultations or approvals from the USACE before initiating activities.

The Contractor may proceed with activities in PSLs that do not affect a USACE permit area if a self-determination has been made that the PSL is non-jurisdictional or if proper USACE clearances have been obtained in jurisdictional areas or have been previously evaluated by the USACE as part of the permit review of this project. The Contractor is solely responsible for documenting any determinations that their activities do not affect a USACE permit area. Maintain copies of their determinations for review by the Department or any regulatory agency.

Document and coordinate with the USACE, if required, before hauling any excavation from or hauling any embankment to a USACE permit area by either 1 or 2 below:

1. **Restricted Use of Materials for the Previously Evaluated Permit Areas.** Document both the Project Specific Locations (PSL) and their authorization. Maintain copies for review by the Department or any regulatory agency. When an area within the project limits has been evaluated by the USACE as part of the permit process for this project:
   a. Suitable excavation of required material in the areas shown on the plans and cross sections as specified in the Item, "Excavation" is used for permanent or temporary fill (under the Item, "Embankment") within a USACE permit area.
   b. Suitable embankment (under the Item, "Embankment") from within the USACE permit area is used as fill within a USACE evaluated area.
   c. Unsuitable excavation or excess excavation, "Waste" (under the Item, "Excavation"), that is disposed of at a location approved within a USACE evaluated area.

2. **Contractor Materials from Areas Other than Previously Evaluated Areas.** Provide the Department with a copy of USACE coordination or approvals before initiating any activities for an area within the project limits that has not been evaluated by the USACE or for any off right of way locations used for the following, but not limited to, haul roads, equipment staging areas, borrow and disposal sites:
   a. The Item, "Embankment" used for temporary or permanent fill within a USACE permit area.
   b. Unsuitable excavation or excess excavation, "Waste" (under the Item, "Excavation"), that is disposed of outside a USACE evaluated area.

The total area disturbed for this project is 56.4 acres. The disturbed area in this project, the project locations in the Contract, and Contractor project specific locations (PSLs) within 1 mile of the project limits for the Contract, will further establish the authorization requirements for storm water discharges. The Department will obtain an authorization to discharge storm water from the Texas Commission on Environmental Quality (TCEQ) for the construction activities shown on the plans. The Contractor is to obtain required authorization from the TCEQ for Contractor PSLs for construction support activities on or off the ROW. When the total area disturbed in the Contract and PSLs within 1 mile of the project limits exceeds 5 acres, provide a copy of the Contractor NOI for PSLs on the ROW to the Engineer (to the appropriate MS4

operator when on an off-state system route) and to the local government that operates a separate storm drain system.

This project does not require a U.S. Army Corps of Engineers (USACE) Section 404 Permit before letting, but if a permit is needed during construction, assume responsibility for preparing the permit application. Submit the permit application to the Department's District Environmental Section for approval. Once the permit application is approved, the Department will submit it to the USACE. Assume responsibility for the requested revisions, in coordination with the Department's District Environmental Section.

Maintain the roadway slope stability. Maintaining slope stability is subsidiary to the various bid items.
The nesting / breeding season for migratory birds is March 1 through August 30.

Conduct any tree removal outside of the migratory bird nesting season. If this is not possible due to scheduling, then exercise caution to remove only those trees with no active nests. Do not destroy nests on structures or in trees within the project limits during the nesting / breeding season.

Take measures to prevent the building of nests on any structures or trees within the project limits throughout the duration of the construction if work / removal will be performed during the nesting / breeding season. This can be accomplished by application of bird repellent gel, netting by hand every 3 to 4 days, or any other non-threatening method approved by the Houston District Environmental Section. Obtain this approval well in advance of the planned use. Contact the Houston District Environmental Section at 713-802-5244. The cost of this work is subsidiary to the various bid items.

Item 8: Prosecution and Progress

The road-user cost liquidated damages per day are as shown below for each milestone shown on the Table below. After the project is substantially complete, the liquidated damages become those based on contract administration costs.

Milestone	Begin	End	Calendar Days Allowed	Incentives/Disincentives per Calendar Day	Maximum Days for Incentives	Maximum Amount for Incentives
1						
2						
3						
4						

The Contractor will receive a credit in the amounts shown above per day for substantially completing the milestone in less than the number of days stipulated on the proposal cover. The maximum amount of incentive is $ 1,498,000.

Create, maintain, and submit for approval, a Critical Path Method (CPM) project schedule using computer software that is fully compatible with version 3.1 of Primavera Systems, Inc. or Primavera Project Planner (P3).

The Department will supply bidders, upon written request, one electronic copy of the time determination schedule. The time determination schedule provided is for informational use only and is not intended for bidding or construction purposes.

The Department will not adjust the number of days for the project and milestones, if any, due to differences in opinion regarding any assumptions made in the preparation of the schedule or for errors, omissions, or discrepancies found in the time determination schedule.

Working days will be computed and charged based on a Seven-day workweek in accordance with Section 8.3.A.3, and 8.3.C.1, Nighttime work "Five-, Six-, and Seven-Day Workweeks."

Provide a virus-free computer disk or diskette containing the Primavera construction schedule.

The maximum number of days the time charges on this contract may be suspended due to fabrication or utility adjustment delays is 60 days. The Engineer and the Contractor may mutually agree, in writing, to increase or decrease this maximum number of days.

The Lane Closure Assessment Fee is $ 2,000 for IH 45, $1,500 for IH 610, $400 for SH 35, $300 for EB or WB frontage roads along S. Loop IH 610, and $400 for NB or SB frontage roads along IH 45. This fee applies to the Contractor for closures or obstructions that overlap into restricted hour traffic for each hour or portion thereof, per lane, regardless of the length of lane closure or obstruction. For Restricted Hours subject to Lane Assessment Fee refer to the Item, "Barricades, Signs, and Traffic Handling."

Item 100: Preparing Right of Way

Obtain a City of Houston plumbing permit and a demolishing permit or removing permit before demolishing or removing existing houses or commercial buildings.

Clean existing ditches under fill sections of undesirable materials including grass, muck, and trash. Perform this work in accordance with the Construction section of the Item, "Preparing Right of Way." This work is subsidiary to this bid Item.

The Item, "Preparing Right of Way" will be measured for payment only in those designated areas shown on the plans. Preparing right of way necessary to perform construction that is outside designated areas is subsidiary to this bid Item.

Remove abandoned utilities that are in conflict with the new utilities, at no expense to the Department.

Reestablish and maintain right of way stakes after completing the right of way preparation activities and until the new utilities are in place.

Remove and assume ownership of the existing ground mounted signs within the limits of roadway construction unless otherwise noted or directed. This work is subsidiary to the Item, "Preparing Right of Way."

Item 104: Removing Concrete

Removing concrete curb is paid as a separate bid item if the existing pavement on which it rests is not removed at the same time.

Item 105: Removing Stabilized Base and Asphalt Pavement
Item 305: Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement

Removing the Asphalt Concrete Pavement (ACP) material is paid under the Item, "Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement."

Removing the cement or lime treatment is paid under the Item, "Removing Stabilized Base and Asphalt Pavement."

Remove the ACP separately from the cement or lime treatment. Make the removed depth is as uniform as possible during each removal pass if the pavement depth being removed is composed of different asphalt layers. Unless otherwise approved, stockpile the RAP of differing types of quality separately by its intended use such as for the asphalt treatment, cement treatment, lime treatment, or asphalt concrete pavement. Break, crush, or mill the stockpiled materials so that 100 percent pass the 2-in. sieve.

Removing the base material is paid under the Item, "Removing Stabilized Base and Asphalt Pavement."

Item 110: Excavation

If manipulating the excavated material requires moving the same material more than once to accomplish the desired results, the excavation is measured and paid for only once regardless of the manipulation required.

Transition the ditch grades and channel bottom widths at structure locations. Use only approved channel excavation in the embankment.

The total excavation quantity shown on the plans includes the quantity for excavating to 2 ft. behind the back of the proposed curb.

Item 132: Embankment

If salvaged base is used for the embankment material, break it into small pieces to achieve the required density and to facilitate placing in the embankment. Obtain approval of the material before placing in the embankment.

Furnish Type C material with a maximum Liquid Limit (LL) of 65, a minimum Plasticity Index (PI) of 5, and composed of suitable earth material such as loam, clay, or other materials that form a suitable embankment.

The embankment material used on the project which has a Liquid Limit exceeding 45 will be tested for Liquid Limits at the rate of one test per 20,000 cu. yd. or per total quantity less than 20,000 cu. yd., unless otherwise directed. Only use material that passes the above tests.

Item 161: Compost
Item 162: Sodding for Erosion Control
Item 164: Seeding for Erosion Control
Item 166: Fertilizer
Item 168: Vegetative Watering

Refer to the "Fertilizer, Seed, Sod, Straw, Compost, and Water" standard sheet for material specifications, application rates, and for watering requirements.

Item 204: Sprinkling

Perform subsidiary sprinkling as required under various other items in accordance with the Item, "Sprinkling."

Sprinkling for dust control is subsidiary to the various bid items.

Item 210: Rolling

Use a medium pneumatic roller meeting the requirements of Item 210 as directed. This work is subsidiary to the various bid items. On every asphalt shot, use a minimum of 3 pneumatic rollers or as directed. Use approved rolling patterns. Successive asphalt shots will not be allowed until acceptable rolling has been accomplished on the preceding asphalt shot.

Item 260: Lime Treatment (Road-Mixed)

For slurry placing, before discharging through the distributors, sufficiently agitate or mix the lime and water to place the lime in suspension and to obtain a uniform mixture.

The Engineer will observe the lime treatment that the Contractor elects to open to construction traffic immediately after compaction. If the construction traffic damages the subgrade, route the traffic off the damaged section in accordance with the standard specification. If the construction traffic does not damage the subgrade, cure the subgrade until other courses of material cover it. Apply these courses within 14 days with a maximum curing period of 7 days.

Place the hydrated and the commercial lime as a water suspension or slurry according to the slurry placing method shown in Section 260.4.C.2, "Slurry Placement."

Use the type of lime at particular locations as directed.

Place the quicklime dry or as a slurry.

For the dry quicklime, a spreader box is not required if the lime material is evenly distributed.

In limited areas, the Contractor may construct the lime slurry subgrade under a sequence of work in which the application, mixing, and compaction are completed in the same working day, if approved by the Engineer.

Provide documentation from certified public scales showing gross, tare, and net weights. Provide producer's delivery tickets also showing gross, tare, and net weights. Completely empty the lime trailers at the project site. The Engineer may direct the Contractor to reweigh any shipment of lime on certified scales. The cost of this operation is subsidiary to the Item, "Lime Treatment (Road-Mixed)."

The percentage of lime shown on the plans is estimated on the basis of engineering tests. If soil tests made during construction indicate properties different than those originally anticipated, the Engineer may vary the percentage of the lime to provide soil characteristics similar to those of the preliminary tests.

Mix the lime with the new base material in an approved pugmill type stationary mixer.

Item 276: Cement Treatment (Plant-Mixed)

Before placing the new base, wet and coat the vertical construction joints between the new base and the previously placed base with dry cement.

If the total thickness of the cement treatment is greater than 8 in., compact it in multiple lifts in accordance with Section 276.4.C, "Compaction." Place the courses in the same working day unless otherwise approved.

If using a 100 percent crushed stone aggregate for the proposed base or other aggregate, it must contain 4.5 percent cement based on the dry weight of the aggregate. There is no minimum compressive strength requirement for this Item.

The requirement for core drilling to determine the thickness of cement treatment is waived if using less than 500 sq. yd. at one location.

For widening the existing pavement, the Engineer may waive the requirements for preparing the subgrade by scarifying and compacting if the as-cut subgrade can be maintained to the density of the natural ground and to a uniform consistency when placing the base course. Keep the subgrade wet.

Compact in accordance with the standard specifications and complete the finishing operations within a period of 5 hours after adding the cement to the base material.

Cure the final course of cement treatment using an asphalt distributor that distributes the approved curing material and water mixture material at a rate of 0.25 gallons per square-yard evenly and smoothly or as recommended by the manufacturer at the recommended dilution rate, under a pressure necessary for proper distribution. Provide a curing material meeting the

requirements of the Item, "Asphalts, Oils, and Emulsions" for curing the cement treatment. Use the following materials for curing the courses of cement treatment:

Curing Material	Application
Water	All courses, except final course
PCE	Final course

Continue curing until placing another course or opening the finished section to traffic.

Spread the material so that the layers of base are uniform in depth and in loose density before compacting.

Type E material consists of Type A material, crushed concrete (except under flexible pavement), or Reclaimed Asphalt Pavement (RAP) meeting the requirements of the Item, "Flexible Base." If approved, the 50 percent maximum RAP limitation may be waived.

Unless otherwise directed, place the next pavement layer within 7 working days of placing the base.

If using crushed stone for the Type E material under this Item, ensure it meets the requirements for the Item, "Flexible Base," Type A, Grade 1. Texas Test Method TEX-117-E is not required for this Item.

If using Recycled Type E cement treatment under proposed flexible pavement, produce it using the existing base salvaged from within this project or from other approved Department projects and salvaged asphalt concrete pavement. Do not use crushed concrete under flexible pavement.

If using Recycled Type E cement treatment under proposed concrete pavement, produce it using the existing base salvaged from within this project or from other approved Department projects, salvaged asphalt concrete pavement, or crushed concrete. If using crushed concrete as an aggregate, meet the requirements of Grade 3.

If using salvaged existing base and asphalt concrete pavement as described above, size it so that all the material, except the existing individual aggregate, passes the 2-in. sieve and is of a gradation that allows satisfactory compaction. Provide salvaged material that does not contain deleterious material such as clay or organic material. Provide material passing the No. 40 sieve, defined as soil binder, with a maximum Plasticity Index of 10 and a maximum Liquid Limit of 35 when tested in accordance with test method TEX-106-E.

Meet the following additional requirements if the base and ACP are salvaged from other Department projects:

1. Obtain written approval before using the material.
2. Salvage and stockpile by approved methods.
3. Stockpile the material for exclusive use by the Department.

Item 292: Asphalt Treatment (Plant-Mixed)

Unless otherwise shown on the plans, RAP generated by this project will become the property of the Contractor for use in the current construction project or in future projects.

If using the iron ore topsoil as the primary aggregate, meaning 80 percent or more by weight of the total mixture, the requirements for the water susceptibility test are waived.

Mixtures containing the iron ore topsoil are exempted from test methods TEX-217-F (Part I, separation of deleterious material and Part II, decantation test for coarse aggregate) and TEX-203-F (Sand Equivalent Test).

Assume responsibility for proportioning the materials entering the asphalt mixture, regardless of the type of plant used.

Furnish the mix designs for approval.

Compact the courses to a minimum density of 95 percent of the maximum density as determined using test method TEX-126-E.

Meet the following grading requirements:

Sieve Size	**Percent Passing Grade 4 (Bondbreaker)**
1-3/4 in.	-
1 in.	-
1/2 in.	100
No. 4	30 - 70
No. 40	15 - 45

Physical requirements are as follows:

Maximum Plasticity Index (PI) = 8
Maximum Liquid Limit (LL) = 35
Maximum Wet Ball Mill = 50 (crushed stone)
Maximum LA Abrasion = 50 (iron ore)

If blending the materials, perform the Wet Ball Mill test for the composite aggregate.

Form the asphalt material from 3.5 to 7 percent of the mixture by weight.

For nominal aggregate size less than 0.5 in., design the mix in accordance with test method TEX-204-F. The minimum stability in accordance with TEX-208-F is 30 percent with a laboratory molded density of 96 percent plus or minus 1.5 percent.

If the layer thickness after placing is 1.25 in. or less, the bondbreaker is exempt from the in-place density control described in Section 292.4.E, “Compaction.”

Item 305: Salvaging, Hauling, and Stockpiling Reclaimable Asphalt Pavement

Unless otherwise shown on the plans, RAP generated by this project will become the property of the Contractor for use in the current construction project or in future projects.

Item 360: Concrete Pavement

Where the pavement curb is left off for a later tie, provide the dowels or the tie bars as indicated on the paving detail sheets. The dowel bars and tie bars are subsidiary to the various bid items.

Repair portions of the concrete pavement surfaces that are damaged while in a plastic state before that area receives permanent pavement markings and opens to traffic. Perform repairs that are structurally equivalent to and cosmetically uniform with the adjacent undamaged areas. Do not repair by grouting onto the surface.

On pavement widening, hand finishing in place of the longitudinal float will be permitted.

Where existing pavement is widened with new pavement, place the new pavement a minimum of 2 ft. wide.

Equip the batching plants to proportion by weight, aggregates and bulk cement, using approved proportioning devices and approved automatic scales.

For mono curb, the curb height transitions will be paid at the contract unit price of the larger curb height in the transition. The 2.5-in. laydown curbs for driveways will be paid at the unit price bid for the Item, "Mono Curb (6 in.)."

High-early strength cement may be used for frontage road and city street intersection construction.

Do not use limestone dust of fracture as fine aggregate.

If the concrete design requires greater than 5.5 sacks of cementitious material per cubic yard, obtain written approval. If placing concrete pavement mixes from April 1 to October 31, inclusive, use a minimum of 25 percent by weight of Class F Fly Ash.

Perform saw cutting as shown on the plans in accordance with Section 360.4.J, "Sawing Joints." This saw cutting is subsidiary to this bid Item.

Use coarse aggregate to produce concrete with a Coefficient of Thermal Expansion (CTE) of less than 5.0×10^{-6} in/in/ °F. Before construction, submit test specimens to the TxDOT Construction Division for aggregate acceptance. Provide samples or test specimens as directed. The TxDOT Construction Division will perform the testing. Test results are final. Testing is required for naturally occurring aggregates.

The pay limits for concrete pavements with traffic rails extends to the outside edge or back of the traffic rail.

Items 360, 420, and 421: All Concrete Items

For the Department's concrete cylinder split samples, transport the test cylinders to the Houston District Laboratory located at 7600 Washington Avenue in Houston, or to the appropriate Area Laboratory, when applicable. Transporting the test cylinders is subsidiary to the various bid items.

The approach pavement is paid for under the Item, "Concrete Pavement."

Item 361: Full-Depth Repair of Concrete Pavement

For full depth repair, remove only the quantity of pavement replaceable during the daily allowable work schedule.

Remove loose subbase material and replace it with concrete. Use a bondbreaker, such as a polyethylene sheet, at the interface between the replaced subbase material and the new concrete pavement.

Supply polyethylene fabric on the job site sufficient to cover the area of repair.

Do not place concrete placement if impending weather may result in rainfall or low temperatures that may impair the quality of the finished work.

Repair portions of the concrete pavement surfaces that are damaged while in a plastic state before those areas receive permanent pavement markings and open to traffic. Perform repairs that are structurally equivalent to and cosmetically uniform with adjacent undamaged areas. Do not repair by grouting onto the surface.

Ready mix concrete will be permitted if the equipment and construction methods can produce the desired results. Hand finishing will be permitted.

Perform saw cutting as shown on the plans in accordance with Section 360.4.J, "Sawing Joints." This saw cutting is subsidiary to this bid Item.

Item 400: Excavation and Backfill for Structures

Remove existing obstructions, such as existing bridge columns, to a depth of three (3) feet below the finish grade and as required to horizontally clear proposed structural elements in accordance with item 400 "Excavation and Backfill for Structures". Restore excavation to grade and excavation below footings in accordance with Item 400 "Excavation and Backfill for Structures".

Plugging existing pipe culverts is subsidiary to the various bid items.

If Recycled Cement Treatment (Type D) is included in the plans, the following additional requirements apply:

1. Use only approved sand, crushed concrete, or salvaged base free from deleterious matter, as aggregate for cement-stabilized backfill

2. Provide crushed concrete or salvaged base backfill material in accordance with the Item, "Cement Treatment (Plant-Mixed)(Type D)" (base or crushed concrete), except the recycled Type D material must not contain Reclaimed Asphalt Pavement (RAP).

3. For backfill material below the spring line of pipes, use cement-stabilized sand rather than Recycled Type D backfill material.

4. For the cement-stabilized sand backfill, use a minimum of 7 percent of hydraulic cement based on the dry weight of backfill material. The cement content for the crushed concrete and salvaged base is specified in the Item, "Cement Treatment (Plant-Mixed) (Type D)."

5. Place and compact the stabilized backfill material using a gradation that provides a dense mass without segregating and is impervious to passing of water.

Item 407: Steel Piling

Assume ownership of removed temporary steel sheet piling.

Item 416: Drilled Shaft Foundations

Include the cost for furnishing and installing anchor bolts mounted in the drilled shafts in the unit bid price for the various diameter drilled shafts.

The Department may test using ultrasonic methods the anchor bolts for overhead sign supports, light standards, and traffic signal poles after they are installed. Replace faulty anchor bolts as directed. Do not weld the anchor bolts.

Item 420: Concrete Structures

Unless otherwise noted, use Class C concrete with an ordinary surface finish for signal, lighting, or sign structure foundations.

Mass concrete is a plans quantity item.

Item 421: Hydraulic Cement Concrete

Entrained air is required in all slip formed concrete (bridge rail, concrete traffic barrier, pavement, etc.), but is not required for other structural concrete. Adjust the dosage of air entraining agent for low air content as directed or allowed by the Engineer. If entrained air is provided where not required, only the upper limits of the Special Provision will be enforced.

Item 423: Retaining Walls

Mechanically Stabilized Earth (MSE) retaining walls are used on this project. The Houston District Green Ribbon guidelines for the wave schemes are applicable for the retaining walls on this project.

Place concrete riprap mow strips for retaining walls as shown on the plans and in accordance with the Item, "Riprap." Use Class B concrete reinforced with No. 4 bars spaced at 18 in. centers each direction and placed 2 in. below the surface. This work is paid for under the Item, "Riprap."

Provide and maintain positive drainage away from the earth wall system, including the leveling pad, for the contract duration.

Approved Mechanically Stabilized Earth (MSE) Wall Systems are listed at the website below:

http://www.dot.state.tx.us/business/contractors_consultants/bridge/mse_wall.htm

Item 427: Surface Finishes for Concrete

Provide a Surface Area I finish for structures. Use concrete paint for the surface finish.

Item 428: Concrete Surface Treatment

Provide a Class I surface treatment to the following elements: The upper surfaces of the bridge slab (including direct traffic culverts), bridge sidewalks and medians, and the inside face of curbs.

Item 442: Metal for Structures

Use temperature zone 1 for Charpy V-Notch (CVN) testing.

Prestressed concrete panels will not be allowed on steel structures.

Item 449: Anchor Bolts

Pipe joint compound, as used in this Item, is an electrically conducting protective thread lubricant compound to be used on the foundation anchor bolts for illuminations poles (Crouse-Hinds TL-2, 0z/Gedney Stl, or Thomas & Betts Kopr-Shield).

Item 450: Railing

Add a 3/4-in. longitudinal chamfer to the SSTR railing. Provide a continuous chamfer typically located 6 in. above the final grade. The cost of this is subsidiary to the Item, "Railing."

Item 464: Reinforced Concrete Pipe

Concrete collars are subsidiary to the various bid items except for those specified on the plans for stage construction, which are paid for under the Item, "Concrete Structures" as "Cl C Conc (Collar)."

Rubber gaskets are required for concrete pipe joints except for connections of safety end treatments, driveway culverts, and joints between the existing pipes and extensions.

Open, install, and backfill each section, or a portion of a section, in the same day at locations requiring pipe culverts under existing roadways.

Place the pipe drains across existing roadways half at a time to allow passage of traffic. No trenches may remain open overnight.

Known locations of existing stubouts are shown on the plans, but these stubouts may be in a different position or condition. Delays, inconveniences, or additional work required will not be a basis for additional compensation.

Provide leave-outs or holes in the proposed storm drain structures and pipes for drainage during interim construction. This work is subsidiary to the various bid items.

The flowline elevations of side road structures are based on the proposed ditches. Field-verify these elevations and adjust them as necessary to meet the field conditions. Before placing these structures, prepare and submit for approval, the data (revised elevation, alignment, length, etc.) for the adjusted structures.

If groundwater is encountered while installing the storm drain system, install a suitable dewatering system to facilitate construction of the storm drains. The costs for materials and labor required to install and maintain this system are subsidiary to the Item, "Reinforced Concrete Pipe."

Item 465: Manholes and Inlets

If required on the plans, build manholes and inlets to stage 1 construction, cover with temporary pavement, and complete in a later phase of construction. This temporary covering and pavement are subsidiary to the various bid items.

If building manholes or inlets in graded areas, first construct them to an elevation at least 4 in. above the top of the highest entering pipe and cover with a wooden cover. Complete the construction of such manholes or inlets to the finished elevation when completing the grading work for such manholes or inlets. Adjust the final elevation, if required, since this elevation is approximate.

Construct manholes and inlets in paved areas to an elevation so their temporary wooden covers are flush with the surface of the base material.

Do not leave excavations or trenches open overnight.

Items 496: Removing Structures

Assume ownership and remove from the project site, items salvaged from the existing bridge decks and steel beams. The approximate weight of the steel beams is *XXX* tons.

Do not permit debris resulting from the structure removal or construction activities to enter a natural or manmade waterway such as drainage channels, rivers, streams, bays, etc. Remove debris which falls into such waterways. This work is subsidiary to the Item, "Removing Structures."

Item 502: Barricades, Signs, and Traffic Handling

Use a traffic control plan for handling traffic through the various phases of construction. Follow the phasing sequence unless otherwise agreed upon by the Area Engineer and the Project Manager. Ensure this plan conforms to the latest "Texas Manual on Uniform Traffic Control Devices" and the latest Barricade and Construction (BC) Standard Sheets. The latest versions of Work Zone Standard Sheets WZ (BTS-1) and WZ (BTS-2) are the traffic control plan for the signal installations.

Submit changes to the traffic control plan to the Area Engineer. Provide a layout showing the construction phasing, signs, striping, and signalizations for changes to the original traffic control plan.

Furnish and maintain the barricades and warning signs, including the necessary temporary and portable traffic control devices, during the various phases of construction. Place and construct these barricades and warning signs in accordance with the latest "Texas Manual on Uniform Traffic Control Devices" for typical construction layouts.

Cover work zone signs when work related to the signs is not in progress, or when any hazard related to the signs no longer exists.

Keep the delineation devices, signs, and pavement markings clean. This work is subsidiary to the Item, "Barricades, Signs, and Traffic Handling."

Erect temporary signs when exit ramps are closed or moved to new locations during construction.

If a section is not complete before the end of the workday, pull back the base material to the existing pavement edge on a 6H: 1V slope. Edge drop-offs during the hours of darkness are not permitted.

Before detouring traffic onto the mainlane shoulders, remove dirt, debris, vegetation, and other deleterious material from the surface of the shoulders. Appropriately sign the detour in an approved manner. This work is subsidiary to the various bid items.

Coordinate and schedule the work with the appropriate Metro representative if requiring access to the High Occupancy Vehicle lanes.

Cover or remove the permanent signs and construction signs that are incorrect or that do not apply to the current situation for a particular phase.

Replace the overhead signs, informational signs, and exit signs to be removed, with temporary signs providing the correct information to the traveling public. Size the replacement signs and include them in the traffic control plan.

Do not mount signs on drums or barricades, except those listed in the latest Barricades and Construction standard sheets.

Use traffic cones for daytime work only. Replace the cones with plastic drums during nighttime hours.

Place positive barriers to protect drop-off conditions greater than 2 ft. within the clear zone that remain overnight.

Use shadow vehicles with Truck Mounted Attenuators (TMA) for lane and shoulder closures.

Do not reduce the existing number of lanes open to traffic except as shown on the following time schedule:

One Lane Closure

Day	Daytime Closure Hours	Nighttime Closure Hours	Restricted Hours Subject to Lane Assessment Fee
Monday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Tuesday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Wednesday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Thursday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Friday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Saturday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Sunday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM

Two Lane Closure

Day	Daytime Closure Hours	Nighttime Closure Hours	Restricted Hours Subject to Lane Assessment Fee
Monday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Tuesday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Wednesday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Thursday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Friday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM
Saturday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM

Day	Daytime Closure Hours	Nighttime Closure Hours	Restricted Hours Subject to Lane Assessment Fee
Sunday	Not Permitted	9:00 PM - 5:00 AM	5:00 AM - 9:00 PM

Full Closure (Roadway / Ramps / Direct Connector)

Day	Daytime Closure Hours	Nighttime Closure Hours	Restricted Hours Subject to Lane Assessment Fee
Monday	Not Permitted	10:00 PM – 5:00 AM	5:00 AM - 10:00 PM
Tuesday	Not Permitted	10:00 PM – 5:00 AM	5:00 AM - 10:00 PM
Wednesday	Not Permitted	10:00 PM – 5:00 AM	5:00 AM - 10:00 PM
Thursday	Not Permitted	10:00 PM – 5:00 AM	5:00 AM - 10:00 PM
Friday	Not Permitted	10:00 PM – 5:00 AM	5:00 AM - 10:00 PM
Saturday	Not Permitted	10:00 PM – 5:00 AM	5:00 AM - 10:00 PM
Sunday	Not Permitted	10:00 PM – 5:00 AM	5:00 AM - 10:00 PM

The above times are approved for the traffic control conditions listed. The Area Engineer may approve other closure times if traffic counts warrant. The Area Engineer may reduce the above times for special events.

Law enforcement assistance will be required for this project and is expected to be required for major traffic control changes and lane closures. Coordinate with local law enforcement and arrange for law enforcement as directed or agreed by the Engineer. Before payment will be made, complete the "Daily Report on Law Enforcement Force Account Work" (Form 318), provided by the Department and submit daily invoices that agree with this form for any day during the month in which approved services were provided.

Provide full-time, off-duty, uniformed, certified peace officers, as part of traffic control operations. The peace officers must be able to show proof of certification by the Texas Commission on Law Enforcement Officers Standards. The cost of the officers is paid for on a force account basis.

A minimum of 7 days in advance of any total closure, notify the Houston District Public Information Office of which roadways, ramps, intersections, or lanes will be closed, the dates they will remain closed, and when they will be opened again to traffic.

A minimum of 7 days in advance of any total closure, place a portable changeable message (PCM) sign at the location of each total closure which informs the traveling public of the details

of the closure. Alternately, if the Traffic Control Plan provides a positive barrier at the location, a non-trailer mounted static message board sign behind the positive barrier may be used in place of a PCM.

Provide 5 portable changeable message signs as shown on the Traffic Control Plan and the Special Specification Item, "Portable Changeable Message Signs."

Minimize the number of working days for street closures. The following table lists the maximum number of working days allowed for each street closure. The closure period for each intersection occurs only during the phase when constructing that street, unless otherwise directed. Reopen the street within the number of working days allowed; otherwise the Engineer may cease construction activities not affiliated with reopening the closed street, until it fully reopens to the traveling public. Time charges will not be suspended nor increased to compensate for this occurrence.

Street Name	Number of Working Days Allowed for Closure
Woodridge Drive at IH 45	*2 weekends*

During construction, remove, cover, adjust, or replace overhead sign panels to correspond with each current traffic control phase. The desirable size of letters for freeways is 10 in., the minimum is 8 in. This work is subsidiary to Item 502.

Before closing any City of Houston sidewalk, one or more city street lanes, or entire city streets during construction, obtain a permit to do so from the City. Obtain the required permit in person at the City of Houston Permit Office, or apply online at http://www.gims.houstontx.gov.

The Contractor Force Account "Safety Contingency" that has been established for this project is intended to be utilized for work zone enhancements, to improve the effectiveness of the Traffic Control Plan, that could not be foreseen in the project planning and design stage. These enhancements will be mutually agreed upon by the Engineer and the Contractor's Responsible Person based on weekly or more frequent traffic management reviews on the project. The "Safety Contingency" is not intended to be used in lieu of bid items established by the contract.

Item 504: Field Office and Laboratory

Furnish one Type A structure for the laboratory. Ensure the windows for the structure have burglar bars.

Furnish a Type D structure for the asphalt mix control laboratory for the Engineer's exclusive use. In addition to the requirements of this Item, "Field Office and Laboratory," ensure this structure has a minimum height of 8 ft. Also ensure it has a minimum of 400 sq. ft. of gross floor area suitable for permanently located asphalt plants or 200 sq. ft. for temporarily located asphalt plants serving one project. Partition the floor area into a minimum of 2 interconnected

rooms, and provide each room with an exterior door and a minimum of 2 windows. Construct the floor of sufficient strength to support the testing equipment and with an impervious covering.

Adequately air condition the Type D structure and furnish it with a minimum of one desk, 3 chairs, one file cabinet, a telephone, and one built-in equipment-storage cabinet suitable for storing nuclear equipment. Ensure the cabinet is a minimum of 3 ft. wide by 2 ft. deep by 3 ft. high and has a secure lock. Provide the structure with a 240-volt electrical service entrance. Use a licensed electrician to determine the service size and service entrance conductors. Provide a minimum service of four 120-volt circuits with 20 amp breakers, and a maximum of 2 grounded convenience outlets per circuit and a minimum of two 220-volt ovens with vents to the outside. Provide a structure with a minimum of 2 convenience outlets per wall and a utility sink with an adequate, clean potable water supply for testing. Do not use space heaters to heat the structure. Use support blocks for the portable structures, tie them down, and securely attach them to the ground.

Determine the asphalt content by the ignition method and meet the requirements of Section 504.2.B.4.b, "Asphalt Content by Ignition Method" except provide a NEMA 6-50R (204/240 volt, 50 A) outlet within 2.25 ft. of the ignition oven location.

If an asphalt mix plant is located at the project site, provide a Type D structure with the dimensions of a Type C structure, at the project site to perform the asphalt mix quality control tests.

If a commercial source is used for the asphalt mix, provide a Type D structure with the dimensions of a Type C structure, at the commercial source site to perform the asphalt mix quality control tests.

Equip each lab with a fire extinguisher and first aid kit. Also equip the labs with an eye wash station. Provide equipment that meets the minimum OSHA requirements. At a minimum, furnish 20 lb. fire extinguishers that are rated for Type A, B, and C fires.

Furnish one Type B structure for the field office. Ensure the windows for the structure have burglar bars.

Provide the structure with the following facilities (The cost of providing these items is subsidiary to this bid Item.):

1. Three desks with 3 swivel chairs, two 5-drawer file cabinets and 3 straight back chairs.
2. Telephone service and equipment consisting of a minimum of one telephone with one extension. Include the call-waiting feature in the service.
3. Potable water with an electric water cooler, a cup dispenser, and cups.
4. Adequate heating, air conditioning, lighting, and a sufficient number of electrical outlets.

5. A commercially available toilet or equivalent facility for the field office and each laboratory.

6. A suitable printer/copier/fax machine for the field office in accordance with Department Material Specification DMS-10101, "Computer Equipment."

Provide a fenced enclosure approximately 100 ft. by 200 ft. Provide an appropriate parking area covered with a suitable base material and with a minimum of 2 security lights, one on each end of the lot. Cost of the work and materials to provide the enclosure are subsidiary to the various bid items.

The above requirements are subsidiary to the various bid items.

Assume ownership of temporary chain link security fences.

Equip each field office with a fire extinguisher and first aid kit. At a minimum, furnish 20 lb. fire extinguishers that are rated for Type A, B, and C fires.

Item 512: Portable Concrete Traffic Barrier

Transport Low Profile Concrete Traffic Barriers (CTB) used for traffic handling from the Department stockpile located on the north side of IH 610 at Long Drive.

Transport Standard Height Concrete Traffic Barriers (including JJ Hook and Safety Shape) used for traffic handling from the Department stockpile located on the south side of IH 610 at Cedar Crest Blvd. (located across IH 610 from Long Drive).

Use only the J-J Hook type connection between barriers.

After completing the project, return Low Profile Concrete Traffic Barriers (CTB) used for traffic handling, to the Department stockpile located on the north side of IH 610 at Long Drive.

After completing the project, return Standard Height Concrete Traffic Barriers(including J-J Hook and Safety Shape) used for traffic handling, to the Department stockpile located on the south side of at IH 610 at Cedar Crest Blvd. (located across IH 610 from Long Drive).

After completing the project, return the associated CTB connecting hardware to the area office or as directed.

If placing the concrete traffic barrier on pre-stressed concrete box beams with exposed reinforcing steel, protect the reinforcing steel by supporting the concrete traffic barrier on 4 in. by 4 in. timbers. Place the timbers transversely and space them on 4 ft. centers. The cost of the labor and materials to perform this work are subsidiary to the Item, "Portable Concrete Traffic Barrier."

Item 514: Permanent Concrete Traffic Barrier

Add a 3/4-in. longitudinal chamfer to the Single Slope Concrete Barrier (SSCB) railing. Provide a continuous chamfer typically located 6 in. above the final grade. The cost of this is subsidiary to the Item, "Permanent Concrete Traffic Barrier."

Item 529: Concrete Curb, Gutter, and Combined Curb and Gutter
Item 530: Intersections, Driveways, and Turnouts
Item 531: Sidewalks

An air-entraining admixture is not required.

For concrete curbs, use Grade 7 aggregate conforming to Section 421.2 of the Item, "Hydraulic Cement Concrete."

For driveways and turnouts, coarse aggregate Grade No. 3 through No. 8 conforming to the gradation requirements specified in the Item, "Hydraulic Cement Concrete" will be permitted.

For reinforcing steel in sidewalks and pedestrian ramps, use No. 4 bars at a maximum 18 in. spacing center-to-center in both directions.

Item 540: Metal Beam Guard Fence

Painting the timber posts is not required.

Use timber posts for galvanized steel metal beam guard fence, except for anchorage at turned down ends.

Furnish and install wood blocks between the rail elements and the timber posts as detailed on the plans. These block-outs are subsidiary to this bid Item.

The quantity of the metal beam guard fence is subject to change.

Provide a mow strip as shown on the plans, at metal beam guard fence locations, including any guardrail end treatments.

Galvanize the rail elements supplied for this project by using a Type II Zinc Coating.

Item 542: Removing Metal Beam Guard Fence

Remove and assume ownership of unsalvageable metal beam guard fence rail elements and posts.

Replace removed wood posts which are unusable because of damage by the Contractor, at no expense to the Department.

Item 545: Crash Cushion Attenuators

After completing the project, return remaining unused crash cushion attenuators units to the Area Office Maintenance yard or as directed, at no cost to the Department.

Item 556: Pipe Underdrains

Do not use crushed blast furnace slag.

Lay the underdrain pipe on a slope to insure proper drainage.

Tie the under drain pipe into the inlets as shown on the plans.

Item 585: Ride Quality for Pavement Surfaces

To eliminate the need for corrective action due to excessive deviations in the final surface layers, exercise caution to ensure satisfactory profile results in the intermediate paving layers (mixture).

Milling will not be allowed as a corrective action for excessive deviations in the final surface layer of hot-mix asphalt.

For Continuously Reinforced Concrete Pavement (CRCP) mainlanes and direct connectors, use Surface Test Type B and Pay Adjustment Schedule 2. For ramps use Surface Test Type A.

For asphalt mainlanes and direct connectors, use Surface Test Type B and Pay Adjustment Schedule 1. For ramps use Surface Test Type A.

For concrete or asphalt curb and gutter sections or frontage roads, use Surface Test Type B and Pay Adjustment Schedule 2 except for the outside lane. Use Surface Test Type B and Pay Adjustment Schedule 3 for the outside lane.

For all other roads (cross streets and intersections), use Surface Test Type A.

Item 610: Roadway Illumination Assemblies

The cost of providing the electrical conductor in the pole foundation or in the pole base to make connections is subsidiary to the roadway illumination assembly. The quantity for payment is the surface distance between locations.

Limitations on Use of the RIP-11 Standard:

Fabricate steel roadway illumination poles in accordance with TxDOT Standard RIP-11 (Roadway Illumination Poles - 2011). Poles manufactured according to RIP-11 require no shop drawings. Alternate designs to RIP-11 or the use of aluminum to fabricate poles will require the submission of shop drawings electronically.

Limitations on use of the RIP-11 Standard:

The Roadway Illumination Pole (RIP-11) standard details were developed for installations in locations where the 3-second gust basic maximum wind speed is 110 mph, and where the elevation of the base of the pole is less than (i.e. not more than) 25 ft. above the elevation of surrounding terrain, in accordance with the "AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals," 4th Edition (2001). For poles to

be installed in regions where the maximum basic wind speed exceeds 110 mph or to be mounted more than 25 ft. above the surrounding terrain, provide poles meeting the following requirements:

• Submittals.
Following the electronic shop drawing submittal process (see ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/bridge/e_submit_guide.pdf), submit for review and approval pole fabrication drawings and calculations that are sealed, signed, and dated by a professional engineer registered or licensed in Texas.

• Structural Supports for Luminaires.
Supply luminaire poles with a 25-year design life in accordance with the current edition of the above mentioned AASHTO Design Specifications. Furnish poles that either (1) meet the requirements for the appropriate 3-second gust wind speeds according to the formulas and wind speed map in the same AASHTO specification, and that resist dead loads and ice loads at the installation location, or (2) conform to the RIP-11 standard for the type and luminaire mounting heights; whichever poles have the greater capacity. For transformer base poles, ensure the fabricator includes the transformer base and connecting hardware in calculations and shop drawing submittals. Ensure transformer bases have been structurally tested to resist the theoretical plastic moment capacity of the pole. Submit certification of the plastic moment load test and FHWA breakaway requirement test of the base model being furnished, together with the shop drawings. Include on the shop drawings the breakaway base model number, and the manufacturer's name and logo. Include on the manufacturer's shop drawings the ASTM designations for the materials to be used.

• Luminaire Arms.
Supply poles and luminaire arms to support the configurations shown in the plans. Supply luminaire arms to support 60-lb. (minimum) luminaires having an effective projected area of 1.6 sq. ft.

• Anchor Bolt Assemblies.
Supply anchor bolt assemblies as shown on the RIP standard sheets, unless a larger capacity bolt assembly is required for the 3-second gust wind speed and mounting elevation at the pole installation location.

Item 616: Performance Testing of Lighting Systems

The illumination plans provide for a complete illumination system installed, connected, tested, and ready for operation.

After satisfactory completion of tests, place the new lighting fixtures in operation. Final acceptance will be made after the fixtures operate satisfactorily for a minimum period of 14 days. The 14-day test period is included in the allowed working days.

Assume responsibility for the new lighting fixtures during the test period. Make adjustments or repairs as required and repair defects or damage at no expense to the Department.

Item 618: Conduit
Item 620: Electrical Conductors
Item 628: Electrical Services

If the specifications for electrical items require UL-listed products, this means UL-listed or CSA-listed.

Item 618: Conduit

When backfilling bore pits, ensure that the conduit is not damaged during installation or due to settling backfill material. Compact select backfill in 3 equal lifts to the bottom of the conduit; or if using sand, place it 2 in. above the conduit. Ensure backfill density is equal to that of the existing soil. Prevent material from entering the conduit.

Construct bore pits a minimum of 5 ft. from the edge of the base or pavement. Close the bore pit holes overnight.

Unless shown on the plans, install underground conduit a minimum of 24 in. deep. Install the conduit in accordance with the latest National Electrical Code (NEC) and applicable Department standard sheets. Place conduit under driveways or roadways a minimum of 24 in. below the pavement surface.

If using casing to place bored conduit, the casing is subsidiary to the conduit.

If placing the conduit under existing pavement to reach the service poles, bore the conduit in place and extend it a minimum distance of 5 ft. beyond the edge of shoulder or the back of curb.

Where PVC, duct cable, and HDPE conduit 1 in. and larger is allowed and installed per Department standards, provide a PVC elbow in place of the galvanized rigid metal elbow required by the Electrical Details standards. Ensure the PVC elbow is of the same schedule rating as the conduit to which it is connected. Use only a flat, high tensile strength polyester fiber pull tape to pull conductors through the PVC conduit system.

Remove conductor and conduit to be abandoned to 1 ft. below the ground level. This work is subsidiary to the various bid items.

Do not use cast iron junction boxes in concrete traffic barriers and single slope traffic barriers. Use polymer concrete junction boxes in place of the cast iron junction boxes shown on standard sheets CTBI (3), CTBI (4), and SSCB (4). Mount the junction boxes flush (+ 0 in., - 1/2 in.) with the concrete surface of the concrete barrier.

Use materials from pre-qualified producers as shown on the Department's Construction Division (CST) material producers list. Check the latest links on the TxDOT website for the list. The category is "Roadway Illumination and Electrical Supplies." The polymer concrete barrier box is subsidiary to Item 618, "Conduit."

Item 620: Electrical Conductors

Test each wire of each cable or conductor after installation. Incomplete circuits or damage to the wire or the cable are cause for immediate rejection of the entire cable being tested. Remove and replace the entire cable at no expense to the Department. Also test the replacement cable after installation.

When pulling cables or conductors through the conduit, do not exceed the manufacturer's recommended pulling tensions. Lubricate the cables or conductors with a lubricant recommended by the cable manufacturer.

For both transformer and shoe-base type illumination poles, provide double-pole breakaway fuse holders as shown on the Department's Construction Division (CST) material producers list. Check the latest link on the Department website for this list. The category is "Roadway Illumination and Electrical Supplies." The fuse holder is shown on the list under Items 610 and 620. Provide 10 Amp time delay fuses.

Ensure that circuits test clear of faults, grounds, and open circuits.

Split bolt connectors are allowed only for splices on the grounding conductors.

For Roadside Flashing Beacon Assemblies (Item 685) and Pedestal Pole Assemblies (Item 687) within the project, provide single-pole breakaway disconnects. Use Bussman HEBW, Littlefuse LEB, Ferraz-Shawmut FEB, or equal on ungrounded conductors. For grounded conductors, use Bussman HET, Littlefuse LET, Ferraz-Shawmut FEBN, or equal. These breakaway connectors have a white colored marking and a permanently installed solid neutral.

For electrical licensing and electrical certification requirements for this project, see Item 7 of the Standard Specifications and any applicable special provisions to Item 7.

Item 624: Ground Boxes

The ground box locations are approximate. Alternate ground box locations may be used as directed, to avoid placing in sidewalks or driveways.

Ground metal ground box covers. Bond the ground box cover and ground conductors to a ground rod located in the ground box and to the system ground.

Ground the existing metal ground box covers as shown on the latest standard sheet ED (3), III, B, 4 through 6.

During construction and until project completion, provide personnel and equipment necessary to remove ground box lids for inspection. Provide this assistance within 24 hours of notification.

Construct concrete aprons in accordance with the latest standard sheet ED (3). Make the depth of the concrete apron the same as the depth of the ground box, except for Type 1 and Type 2 ground boxes. For Type 1 or Type 2 ground boxes, construct the concrete apron in accordance with details shown on the "Ground Box Details Installations" standard.

Item 628: Electrical Services

Verify and coordinate the electrical service location with the engineering section of the appropriate utility district or company.

Identify the electrical service pole with an address number assigned by the Utility Service Provider. Provide 2-in. numerals visible from the highway. Provide numbers cut out aluminum figures nailed to wood poles or painted figures on steel poles or service cabinets.

Item 636: Aluminum Signs

Include aluminum route markers, exit only panels, routing signs, and other special panels attached to guide signs in the unit bid price for the parent guide sign material.

Furnish and install signs shown on the traffic signal "Summary of Traffic Signal Materials" sheet. Ensure that the legend on these sign panels is in accordance with the latest "Standard Highway Sign Designs for Texas" manual.

The locations of sign panels on overhead structures are approximate. Verify in the field before installing.

When design details are not shown on the plans, provide signs and arrows conforming to the latest "Standard Highway Sign Designs for Texas" manual.

Item 644: Small Roadside Sign Supports and Assemblies

Sign locations shown on the plans are approximate. Before placing them, obtain approval of and then stake the exact locations for these signs.

Use the Texas Universal Triangular Slip Base with the concrete foundation for small ground mounted signs, unless otherwise shown in the plans.

Remove existing street name signs from existing stop signs and re-install them above the new stop signs. Removing and re-installing existing street name signs is subsidiary to the Item, "Small Roadside Sign Supports and Assemblies."

When design details are not shown on the plans, provide signs and arrows conforming to the latest "Standard Highway Sign Designs for Texas" manual.

Provide and install the materials for speed limit signs. For speed limit signs that are indicated with "XX," the Area Engineer will request a speed study through the Director of Transportation Operations to determine the legal speeds to be posted. This request will be made as soon as possible after the roadway opens to traffic. After the speed limit to be posted is determined, this information will be provided to the Contractor by the Area Engineer.

Use Type E Super High Specific Intensity (Fluorescent Prismatic) yellow green reflective sheeting background to fabricate school signs (S1-1, S3-1, S4-3, S5-1, W16-2, SW16-9p, and SW16-7pL(R)).

Assume ownership of the removed existing signs.

Locations of the relocated signs are approximate. Before placing them, obtain approval of and then stake the exact locations for these signs.

Replace existing signs that become damaged during relocation at no expense to the Department.

Item 647: Large Roadside Sign Supports and Assemblies

Locations of the relocated signs are approximate. Before placing them, obtain approval of and then stake the exact locations for these signs.

Replace existing signs that become damaged during relocation at no expense to the Department.

Assume ownership of the removed existing signs.

Item 650: Overhead Sign Supports

Stencil the structure numbers on the new structures for permanent identification.

If sign panels mounted on an overhead sign support face the same direction of traffic, keep the bottoms of the sign panels in the same horizontal plane, unless otherwise shown in the plans.

There is no additional reimbursement for blocking or shims for fits of alignment.

Mill test reports are not required for the walkway, grating, miscellaneous secondary structural items, or hardware.

Use the existing panel supports if removing existing guide signs and if placing new panels of different sizes at the same location. Extend the supports, if needed. If the supports extend over the top of the panel, cut off the supports at the top of the panel or the top of the truss, whichever is higher.

Before fabricating, field check the sign structure elevations, details, and dimensions shown on the plans.

If sign lighting and walkways are not used, trim the sign support brackets flush with the bottoms of the signs.

Assume ownership of removed existing overhead sign supports and other removed materials.

Item 656: Foundations for Traffic Control Devices

Excavating and disposing of surplus materials for lighting standard foundations are subsidiary to the roadway illumination assembly foundation. Dispose of surplus excavated material. Use rigid metal conduit (RMC) for stub-outs in foundation and concrete structures. These stub-outs are subsidiary to the drilled shaft foundations.

Using ready mix concrete for sign foundations is optional.

Item 662: Work Zone Pavement Markings

At the end of each day's work, mark roadways that remain open to traffic during construction operations with standard pavement markings, in accordance with the latest "Texas Manual on Uniform Traffic Control Devices."

Using raised markers for removable work zone pavement markings on final concrete surfaces is optional.

Do not use raised pavement markers as optional work zone pavement markings on final asphalt surfaces.

For transition lane lines and detour lane lines, use raised pavement markers as shown for solid lines on the latest Barricade and Construction standard sheet for "Work Zone Pavement Marking Details."

Item 662: Work Zone Pavement Markings
Item 668: Prefabricated Pavement Markings
Item 6473: Multipolymer Pavement Markings (MPM)

Use Type III glass beads for thermoplastic and multipolymer pavement markings.

Use a 0.100 in. (100 mil) thickness for thermoplastic pavement markings, measured to the top of the thermoplastic, not including the exposed glass beads.

Use a 0.022 in. (22 mil) thickness for multipolymer pavement markings, measured to the top of the multipolymer, not including the exposed glass beads.

For roadways with asphalt surfaces to be striped with work zone or permanent thermoplastic markings, the Contractor has the option to apply paint and beads markings for a maximum 30-day period until placing the thermoplastic markings, or until starting the succeeding phase of work on the striped area. Maintain the paint and beads markings, at no expense to the Department, until placing the thermoplastic markings or starting the succeeding phase of work on the striped area. The work zone markings, whether paint and beads or thermoplastic, are paid under the Item, "Work Zone Pavement Markings" and the markings are paid for only once for the given phase of construction.

If using paint and bead markings as described above, purchase the traffic paint from the open market.

If the Type II markings become dirty and require cleaning by washing, brushing, compressed air, or other approved methods before applying the Type I thermoplastic markings, this additional cleaning is subsidiary to the Item, "Reflectorized Pavement Markings."

Establish the alignment and layout for work zone striping and permanent striping.

Stripe roadways before opening them to traffic.

Place pavement markings under these items in accordance with details shown on the plans, the latest "Texas Manual on Uniform Traffic Control Devices," or as directed.

When design details are not shown on the plans, provide pavement markings for arrows, words, and symbols conforming to the latest "Standard Highway Sign Designs for Texas" manual.

Place the pedestrian crosswalk pavement markings only after the pedestrian signals and push buttons are installed and operating.

Item 672: Raised Pavement Markers

If other operations are complete on the project and if the curing time period is not yet elapsed, the contract time will be suspended until the curing is done.

Before placing the raised pavement markers on concrete pavement, blast clean the surface using an abrasive-blasting medium. This work is subsidiary to the Item, "Raised Pavement Markers."

Provide epoxy adhesive that is machine-mixed or nozzle-mixed and dispensed. Equip the machine or nozzle with a mechanism to ensure positive mix measurement control.

Item 677: Eliminating Existing Pavement Markings and Markers

Remove existing pavement markings on concrete or asphalt surfaces by flail milling or as directed.

Item 678: Pavement Surface Preparation for Markings

Do not blast clean asphalt concrete pavement. Clean asphalt concrete pavement as required under the applicable specifications or as directed.

On new concrete pavement or on existing concrete pavement when placing a new stripe on a new location, remove the curing compounds and contamination from the pavement surface by flail milling or as directed. In addition, air-blast the surface with compressed air just before placing the new stripe.

On existing concrete pavement when placing a new stripe on an existing location, after removing the existing stripe under the Item, "Eliminating Existing Pavement Markings and Markers," air-blast the surface with compressed air just before placing the new stripe.

Perform air blasting with a compressor that is capable of generating air at a minimum of 100 psi using 5/16 in. or larger hosing for the air blast (equipment should have sufficient capacity to remove contaminants but not damage the pavement surface). Do not clean concrete pavement by grinding.

Item 680: Installation of Highway Traffic Signals

Clearly mark or highlight on the shop drawings the items being furnished for this project.

Furnish labor, tools, equipment, and materials as shown on the plans and specifications for a complete and operating signal installation.

Furnish the type of controller cabinet specified on the plans. Refer to the table shown in the Departmental Material Specifications (DMS-11170, Fully Actuated, Solid-State Traffic Signal Controller Assembly), Section 11170.6.K, Type 4 cabinet, page 25 of 39, regarding the size of the cabinet, back panel configuration, and the size of the load bay. Use the following website to view this specification: http://www.txdot.gov/business/resources/dms.html

Complete traffic signal construction work, including correcting discrepancies shown on the Department inspector's "Traffic Signal Installation Inspection Report" before the beginning of the test period.

Provide a full-time qualified traffic signal technician responsible for installing, maintaining, or replacing traffic signal devices.

Staking in the field is subject to approval.

Make adjustments in project construction, if needed, due to conflicts with underground utilities.

Do not aim the luminaire arms mounted on traffic signal poles into the intersection. Aim each arm perpendicular to the centerline of the roadway it is intended to cover, to develop the proper illumination pattern for the intersection.

Allow the electrical work to be inspected by the City. Complying with the provisions and requirements of the City electrical ordinance is not required. Such inspection does not make the City a party to this contract.

Provide continuous conductors without splices from signal controller to signal heads. Route the conductors for luminaires to the service enclosure. Splices or attachments to the terminal block in the access compartment of the mast arm pole are not permitted except for the luminaire cable.

Abrasions to the conductor insulation caused while pulling cable for the traffic signal system are cause for immediate rejection. Remove and replace the entire damaged cable at no expense to the Department.

When pulling cables or conductors through conduit, do not exceed the manufacturer's recommended pulling tensions. Lubricate the cables or conductors with a lubricant as recommended by the cable manufacturer.

Bond the controller housing, signal poles, conduit, and spans to a minimum No. 6 AWG stranded copper conductor. An equipment grounding conductor is required in every conduit to form a continuous grounding system. Effectively connect the grounding system to ground rods or concrete encased grounding electrodes as indicated in the plans.

Wrap signal heads with dark plastic or suitable material to conceal the signal faces from the time of installation until placing into operation. Do not use burlap.

Furnish signal heads from the same manufacturer.

Use High Specific Intensity grade sheeting for signs mounted under or adjacent to the signal heads.

For a steel mast arm or steel strain pole assembly, hold the anchor bolts and conduits rigidly in place with a welded steel template.

Leave a minimum of one full diameter thread exposed on each anchor bolt securing a signal pole.

Set the anchor bolts for steel strain poles so that two are in compression and two are in tension.

Furnish and attach compression type connectors. Install the connectors with a compression mechanical release hand-crimping tool to each individual conductor before making connections to the terminal strips.

Furnish solid conductors for traffic signal cable.

The Contractor may use ready mix concrete.

Apply membrane curing on concrete work in accordance with Section 420.4.J.3, "Membrane Curing."

The standard 4.5-in. galvanized pipe type poles, except the breakaway type, are subject only to the Engineer's inspection for their acceptance. Mill test reports or documentation will not be required.

Item 682: Vehicle and Pedestrian Signal Heads

Install two set screws on vehicle signal head mounting hardware fittings.

Furnish black housings for vehicle and pedestrian signals. Ensure the door and visor match the mast arm and pedestrian pole color. Furnish black vehicle signal head back plates.

Item 686: Traffic Signal Pole Assemblies (Steel)

For a steel mast arm or steel strain pole assembly, hold the anchor bolts and conduits rigidly in place with a welded steel template.

Leave a minimum of one full diameter thread exposed on each anchor bolt securing a signal pole.

Use a Texas Cone Penetrometer reading of 10. The drilled shaft length is from the surface elevation to the bottom of the drilled shaft. Provide an additional length of the pole foundation from the surface level to the roadway level, if required for unusual locations. Provide the drilled shaft depth regardless of the length of the pole foundation. The pole foundation depth from the surface level to the roadway level is a maximum of 4 ft., or as approved.

Locate mast arm pole assemblies a minimum of 4 ft. from the roadway curb or pavement edge.

After the traffic signal pole assembly is plumb and the nuts are tight, tack-weld each anchor bolt nut in two places to its washer. Tack-weld each washer to the base plate in two places. Do not weld components to the bolt. Perform tack-welding in accordance with the Item, "Steel Structures." After tack-welding, repair galvanizing damage on bolts, nuts, and washers in accordance with Section 445.3.D, "Repairs."

The Department may test the anchor bolts using ultrasonic methods for traffic signal poles after they are installed. Replace faulty anchor bolts as directed. Do not weld the anchor bolts.

Item 687: Pedestal Pole Assemblies

Furnish and install screw-in anchor foundations in accordance with Special Specification Item, "Screw-In Anchor Type Foundations." The work performed and materials furnished in accordance with this Item are subsidiary to the Item, "Pedestal Pole Assemblies."

Item 730: Roadside Mowing
Item 734: Litter Removal
Item 735: Debris Removal
Item 738: Cleaning and Sweeping Highways

Mow areas of existing vegetation, collect and dispose of litter, and sweep the roadway within the project limits according to the following chart for the duration of the project or as directed. This work is paid for under their respective bid items.

Roadside Mowing	Litter Removal	Debris Removal	Cleaning and Sweeping Highways
8 cycles	*15* cycles	*15* cycles	*20* cycles

Item 1122: Temporary Erosion, Sedimentation and Environmental Controls

A Storm Water Pollution Prevention Plan (SW3P) is required. Since the disturbed area is more than 5 acres, a "Notice of Intent" (NOI) is also required.

Use appropriate measures to prevent, minimize, and control the spill of hazardous materials in the construction staging area. Remove and dispose of materials in compliance with State and Federal laws.

Before starting construction, review with the Engineer the SW3P used for temporary erosion control as outlined on the plans. Before construction, place the temporary erosion and sedimentation control features as shown on the SW3P.

Schedule the seeding or sodding work as soon as possible. The project schedule provides for a vegetation management plan.

After completing earthwork operations, restore and reseed the disturbed areas in accordance with the Department's specifications for permanent or temporary erosion control.

Implement temporary and permanent erosion control measures to comply with the National Pollution Discharge Elimination System (NPDES) general permit under the Clean Water Act.

Before starting grading operations and during the project duration, place the temporary or permanent erosion control measures to prevent sediment from leaving the right of way.

Item 3061: Fast Track Concrete Pavement

Complete the entire Fast Track Concrete construction process, from the time the Fast Track Work Area is closed to traffic, to the time the Fast Track Work Area is opened to traffic. The Fast Track operation includes, but is not limited to, traffic control, existing pavement and subgrade removal, preparation of subgrade, placement of steel, placement of Fast Track concrete pavement, cure time, striping, etc. Perform work in the Fast Track Work Area in an expeditious manner, within the allowable time period for any area shown below:

Fast Track Work Area	Allowable Duration
1. IH 45 SB Frtg Rd Sta 100+00.00 to Sta 103+16.43:	1 weekend maximum
2. IH 45 SB Frtg Rd Sta 144+59.82 to Sta 147+16.37:	1 weekend maximum
3. Woodridge Dr Sta 12+08.62 to Sta 15+85.74:	2 weekends maximum

Failure to perform any Fast Track Work Area construction within the above time frames will be cause for the Engineer to require the Contractor to shut down all other construction operations to ensure all resources are directed toward the completion of the Fast Track operation. This shutdown will remain in force until the Fast Track operation is complete. Such a shutdown will not warrant additional time, time suspension, or any additional costs to the Department.

Item 5893: Sanitary Sewer

Provide a record of the locations of stacks, stubs, etc. to the owner of the sanitary sewer facility.

Maintain a 12-in. minimum vertical clearance at crossings between the sanitary sewers and culverts, unless otherwise noted.

Item 5969: Water Mains

Construct water mains with Class A concrete in accordance with the Item, “Hydraulic Cement Concrete.” This work is subsidiary to this bid Item.

Assume ownership of removed fire hydrants, valves, and boxes.

Cutting and plugging tees, if called for on the plans, are subsidiary to the Item, “Remove Existing Fire Hydrant.”

Install only new fire hydrants, valves, and boxes conforming to the requirements of this specification. Install fire hydrants, valves, and boxes in accordance with the requirements of Section 3.13 of this specification.

For projects involving City of Houston waterlines, use a shockwave-based pipe location system manufactured by Radiodetection Corporation, or equal, for non-metallic pipe detection in accordance with this specification.

Provide valves that open in a clockwise direction only.

Item 6008: Shifting or Removing Existing Overhead Signs

Assume ownership of the removed sign panels.

Item 6266: Video Imaging Vehicle Detection System

Furnish the cable to operate the Video Imaging Vehicle Detection System (VIVDS) in accordance with the manufacturer's recommendations or purchase it from the same manufacturer as the VIVDS equipment.

Supply VIVDS equipment that can process up to a maximum of 6 camera inputs per intersection. Additional equipment to accommodate up to 6 camera inputs is subsidiary to the various bid items. No extra compensation will be allowed for additional equipment needed to make the VIVDS equipment fully operational under this Item.

Supply a laptop computer and a video monitor as described in this Special Specification Item.

Detector zone video taping for this project will not be required.

Supply 2 video channel VIVDS processor cards equipped with a NEMA TS1 detector interface and a 332 cabinet detector interface for a minimum of 4 detector outputs that are compatible with the City of Houston COH 2070 traffic signal controller.

Special Specification 6266 Video Imaging Vehicle Detection System Requirements

Specification Items	Description	Not Required	Required	State Supplied
1	**VIVDS Configuration**		**X**	
	Cameras, Connectors and Mounting Hardware		**X**	
	VIVDS Processor Unit		**X**	
	Field Setup Computer (1 Required) (Laptop)	**X**		
	Field Setup Video Monitor (1 EA. Controller)		**X**	
	Field Communications Link		**X**	
3	**Functional Capabilities**			
	System Software		**X**	
4	**Vehicle Detection**			
	Detection Zone Video Taping	**X**		
5	**VIVDS Processor Unit**			
	Provide both TS1 and TS2 Interfaces		**X**	
	12 Volt/5 Amp Power Supply		**X**	

6	**Camera Assembly**			
	Camera Interface Panel		**X**	
7	**Field Communications Link**			
	Lightning and Transient Surge Suppression Devices		**X**	
9	**Temporary Use and Retesting**		**X**	
10	**Operation from Central Control**	**X**		
	Telephone Interconnect	**X**		
	ISDN Interconnect	**X**		
11	**Installation and Training**		**X**	

Other items not specifically listed in this table are required. When shown in the plans, remove and deliver temporary VIVDS equipment to the Department's Signal Shop, 6810 Old Katy Rd., Houston, Texas, or as directed.

Item 8835: Accessible Pedestrian Signal Units

At intersections where a minimum of 10 ft. spacing between adjacent accessible pedestrian signal units is not possible, provide each accessible pedestrian pushbutton with the following features: a pushbutton locator tone, a tactile arrow, a speech walk message for the walking person indication and a speech pushbutton information message.

Provide pedestrian push buttons a minimum of 2 in. diameter in the smallest dimension.

Install a rubber grommet or bushing between the push button assembly and the signal pole to protect the conductors.

Basis of Estimate

Item	Description	Limit and Rate	Unit
260	Lime Treatment (Road-Mixed) For materials used as subgrade * • Lime(HYD, COM, or QK)(SLRY) or QK(DRY)	 6 % by weight based on 100 Lb. / Cu. Ft. subgrade	SY TON
292	Asphalt Treatment (Plant-Mixed) • Asphalt • Aggregate	110 Lb. / Sq. Yd.-In. 5 % by weight 95 % by weight	TON

CONTROL : 0500-03-573
PROJECT : IM 0451(346)
HIGHWAY : IH 45
COUNTY : HARRIS

TEXAS DEPARTMENT OF TRANSPORTATION

GOVERNING SPECIFICATIONS AND SPECIAL PROVISIONS

ALL SPECIFICATIONS AND SPECIAL PROVISIONS APPLICABLE TO THIS PROJECT ARE IDENTIFIED AS FOLLOWS:

STANDARD SPECIFICATIONS: ADOPTED BY THE TEXAS DEPARTMENT OF TRANSPORTATION JUNE 1, 2004. STANDARD SPECIFICATIONS ARE INCORPORATED INTO THE CONTRACT BY REFERENCE.

ITEMS 1 TO 9 INCL., GENERAL REQUIREMENTS AND COVENANTS
ITEM 100 PREPARING RIGHT OF WAY (103)
ITEM 104 REMOVING CONCRETE
ITEM 105 REMOVING STABILIZED BASE AND ASPHALT PAVEMENT
ITEM 110 EXCAVATION (132)
ITEM 132 EMBANKMENT (100)(204)(210)(216)(400)
ITEM 162 SODDING FOR EROSION CONTROL (166)(168)
ITEM 164 SEEDING FOR EROSION CONTROL (162)(166)(168)
ITEM 166 FERTILIZER
ITEM 168 VEGETATIVE WATERING
ITEM 260 LIME TREATMENT (ROAD-MIXED) (105)(132)(204)(210)(300)(310)(520)
ITEM 276 CEMENT TREATMENT (PLANT-MIXED) (204)(210)(216)(247)(300)(310)(520)
ITEM 292 ASPHALT TREATMENT (PLANT-MIXED) (300)(301)(320)(520)(585)
ITEM 360 CONCRETE PAVEMENT (300)(420)(421)(438)(440)(529)(585)
ITEM 361 FULL-DEPTH REPAIR OF CONCRETE PAVEMENT (300)(340)(360)(421)(438)(440)
ITEM 368 CONCRETE PAVEMENT TERMINALS (247)(260)(276)(292)(300)(360)(400)(420)(421)(438)(440)
ITEM 400 EXCAVATION AND BACKFILL FOR STRUCTURES (132)(401)(420)(421)
ITEM 402 TRENCH EXCAVATION PROTECTION
ITEM 403 TEMPORARY SPECIAL SHORING (423)
ITEM 416 DRILLED SHAFT FOUNDATIONS (420)(421)(440)(448)
ITEM 420 CONCRETE STRUCTURES (400)(404)(421)(426)(427)(438)(440)(441)(448)
ITEM 422 REINFORCED CONCRETE SLAB (420)(421)(424)(426)(430)(440)
ITEM 423 RETAINING WALLS (110)(132)(400)(420)(421)(424)(440)(445)(458)(556)

ITEM 425 PRECAST PRESTRESSED CONCRETE STRUCTURAL MEMBERS (420)(421)(424)(426)(427)(434)(440)(442)
ITEM 430 EXTENDING CONCRETE STRUCTURES (420)(421)(440)(448)
ITEM 432 RIPRAP (247)(420)(421)(427)(431)(440)
ITEM 434 ELASTOMERIC BRIDGE BEARINGS (420)(441)
ITEM 439 CONCRETE BRIDGE DECK OVERLAYS (420)(421)(428)(440)(483)
ITEM 442 METAL FOR STRUCTURES (441)(445)(446)(447)(448)(449)
ITEM 450 RAILING (420)(421)(424)(440)(441)(442)(445)(446)(448)(540)
ITEM 452 REMOVING RAILING (420)
ITEM 454 BRIDGE EXPANSION JOINTS (429)(442)
ITEM 464 REINFORCED CONCRETE PIPE (400)(476)
ITEM 465 MANHOLES AND INLETS (400)(420)(421)(440)(471)
ITEM 471 FRAMES, GRATES, RINGS, AND COVERS (441)(445)(448)
ITEM 479 ADJUSTING MANHOLES AND INLETS (400)(421)(465)
ITEM 481 PVC PIPE FOR DRAINS (400)
ITEM 483 SCARIFYING CONCRETE BRIDGE SLAB
ITEM 496 REMOVING STRUCTURES (430)
ITEM 500 MOBILIZATION
ITEM 502 BARRICADES, SIGNS, AND TRAFFIC HANDLING (6834)
ITEM 508 CONSTRUCTING DETOURS
ITEM 512 PORTABLE CONCRETE TRAFFIC BARRIER (420)(421)(424)(440)(442)
ITEM 529 CONCRETE CURB, GUTTER, AND COMBINED CURB AND GUTTER (360)(420)(421)(440)
ITEM 530 INTERSECTIONS, DRIVEWAYS, AND TURNOUTS (247)(260)(263)(275)(276)(292)(316)(330)(334)(340)(360)(421)(440)
ITEM 531 SIDEWALKS (104)(360)(420)(421)(440)(530)
ITEM 540 METAL BEAM GUARD FENCE (421)(441)(445)(492)(529)(542)(544)
ITEM 542 REMOVING METAL BEAM GUARD FENCE
ITEM 544 GUARDRAIL END TREATMENTS
ITEM 545 CRASH CUSHION ATTENUATORS (421)
ITEM 550 CHAIN LINK FENCE (421)(445)
ITEM 610 ROADWAY ILLUMINATION ASSEMBLIES (421)(441)(442)(445)(446)(449)(616)(620)
ITEM 618 CONDUIT (400)(445)(476)(622)
ITEM 620 ELECTRICAL CONDUCTORS
ITEM 624 GROUND BOXES (420)(421)(432)(440)(618)(620)
ITEM 628 ELECTRICAL SERVICES (441)(445)(449)(618)(620)(627)(656)
ITEM 636 ALUMINUM SIGNS (643)
ITEM 644 SMALL ROADSIDE SIGN SUPPORTS AND ASSEMBLIES (421)(440)(441)(442)(445)(634)(636)(643)(656)
ITEM 650 OVERHEAD SIGN SUPPORTS (416)(420)(421)(441)(442)(445)(449)(618)
ITEM 658 DELINEATOR AND OBJECT MARKER ASSEMBLIES (445)
ITEM 662 WORK ZONE PAVEMENT MARKINGS (666)(668)(672)(677)
ITEM 666 REFLECTORIZED PAVEMENT MARKINGS (316)(318)(662)(677)(678)
ITEM 668 PREFABRICATED PAVEMENT MARKINGS
ITEM 672 RAISED PAVEMENT MARKERS (677)(678)
ITEM 677 ELIMINATING EXISTING PAVEMENT MARKINGS AND MARKERS (300)(302)(316)
ITEM 678 PAVEMENT SURFACE PREPARATION FOR MARKINGS (677)
ITEM 680 INSTALLATION OF HIGHWAY TRAFFIC SIGNALS (610)(625)(627)

(634)(636)(656)
ITEM 682 VEHICLE AND PEDESTRIAN SIGNAL HEADS
ITEM 684 TRAFFIC SIGNAL CABLES
ITEM 686 TRAFFIC SIGNAL POLE ASSEMBLIES (STEEL) (416)(421)(441)
(442)(445)(449)
ITEM 687 PEDESTAL POLE ASSEMBLIES (445)(449)(656)(4003)
ITEM 688 PEDESTRIAN DETECTORS AND VEHICLE LOOP DETECTORS (618)
(624)(682)(684)
ITEM 730 ROADSIDE MOWING
ITEM 734 LITTER REMOVAL
ITEM 735 DEBRIS REMOVAL
ITEM 738 CLEANING AND SWEEPING HIGHWAYS
ITEM 752 TREE AND BRUSH REMOVAL

SPECIAL PROVISIONS: SPECIAL PROVISIONS WILL GOVERN AND TAKE
---------- PRECEDENCE OVER THE SPECIFICATIONS ENUMERATED
HEREON WHEREVER IN CONFLICT THEREWITH.

REQUIRED CONTRACT PROVISIONS, FEDERAL-AID CONSTRUCTION CONTRACTS
(FORM FHWA 1273, MAY, 2012)
WAGE RATES
SPECIAL PROVISION "NOTICE TO ALL BIDDERS" (000---003)
SPECIAL PROVISION "NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO
ENSURE EQUAL EMPLOYMENT OPPORTUNITY" (000---004)
SPECIAL PROVISION "STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY
CONSTRUCTION CONTRACT SPECIFICATIONS" (000---006)
SPECIAL PROVISION "CERTIFICATION OF NONDISCRIMINATION IN EMPLOYMENT"
(000---009)
SPECIAL PROVISION "DEPARTMENT DIVISION MAILING AND PHYSICAL ADDRESS"
(000---011)
SPECIAL PROVISION "NOTICE OF CHANGES TO U.S. DEPARTMENT OF LABOR
REQUIRED PAYROLL INFORMATION" (000--1483)
SPECIAL PROVISION "DISADVANTAGED BUSINESS ENTERPRISE IN FEDERAL AID
CONTRACTS" (000--1966)
SPECIAL PROVISION "PARTNERING" (000--2329)
SPECIAL PROVISION "SCHEDULE OF LIQUIDATED DAMAGES" (000--2332)
SPECIAL PROVISION "NONDISCRIMINATION" (000--2607)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000--2638)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000--2839)
SPECIAL PROVISION "IMPORTANT NOTICE TO CONTRACTORS" (000--2878)
SPECIAL PROVISION TO ITEM 1 (001---015)
SPECIAL PROVISION TO ITEM 2 (002---017)
SPECIAL PROVISION TO ITEM 3 (003---033)
SPECIAL PROVISION TO ITEM 4 (004---017)
SPECIAL PROVISION TO ITEM 5 (005---004)
SPECIAL PROVISIONS TO ITEM 6 (006---030)(006---047)
SPECIAL PROVISION TO ITEM 7 (007---918)
SPECIAL PROVISIONS TO ITEM 8 (008---013)(008---119)(008---143)
SPECIAL PROVISIONS TO ITEM 9 (009---009)(009---015)
SPECIAL PROVISION TO ITEM 100 (100---002)
SPECIAL PROVISION TO ITEM 132 (132---005)
SPECIAL PROVISION TO ITEM 161 (161---006)

SPECIAL PROVISION TO ITEM 164 (164---002)
SPECIAL PROVISION TO ITEM 166 (166---001)
SPECIAL PROVISION TO ITEM 247 (247---033)
SPECIAL PROVISION TO ITEM 260 (260---003)
SPECIAL PROVISION TO ITEM 300 (300---039)
SPECIAL PROVISION TO ITEM 302 (302---010)
SPECIAL PROVISION TO ITEM 316 (316---016)
SPECIAL PROVISION TO ITEM 330 (330---001)
SPECIAL PROVISION TO ITEM 340 (340---003)
SPECIAL PROVISION TO ITEM 360 (360---003)
SPECIAL PROVISION TO ITEM 361 (361---001)
SPECIAL PROVISION TO ITEM 368 (368---001)
SPECIAL PROVISION TO ITEM 400 (400---004)
SPECIAL PROVISION TO ITEM 416 (416---001)
SPECIAL PROVISION TO ITEM 420 (420---002)
SPECIAL PROVISION TO ITEM 421 (421---035)
SPECIAL PROVISION TO ITEM 424 (424---003)
SPECIAL PROVISION TO ITEM 425 (425---001)
SPECIAL PROVISION TO ITEM 429 (429---008)
SPECIAL PROVISION TO ITEM 431 (431---001)
SPECIAL PROVISION TO ITEM 434 (434---003)
SPECIAL PROVISION TO ITEM 440 (440---006)
SPECIAL PROVISION TO ITEM 441 (441---008)
SPECIAL PROVISION TO ITEM 442 (442---016)
SPECIAL PROVISION TO ITEM 447 (447---002)
SPECIAL PROVISION TO ITEM 448 (448---002)
SPECIAL PROVISION TO ITEM 450 (450---001)
SPECIAL PROVISION TO ITEM 454 (454---003)
SPECIAL PROVISION TO ITEM 464 (464---006)
SPECIAL PROVISION TO ITEM 465 (465---001)
SPECIAL PROVISION TO ITEM 476 (476---003)
SPECIAL PROVISION TO ITEM 492 (492---001)
SPECIAL PROVISION TO ITEM 500 (500---011)
SPECIAL PROVISION TO ITEM 502 (502---033)
SPECIAL PROVISION TO ITEM 512 (512---002)
SPECIAL PROVISION TO ITEM 530 (530---006)
SPECIAL PROVISION TO ITEM 531 (531---006)
SPECIAL PROVISION TO ITEM 540 (540---031)
SPECIAL PROVISION TO ITEM 544 (544---001)
SPECIAL PROVISION TO ITEM 610 (610---015)
SPECIAL PROVISION TO ITEM 620 (620---001)
SPECIAL PROVISION TO ITEM 624 (624---014)
SPECIAL PROVISION TO ITEM 628 (628---003)
SPECIAL PROVISION TO ITEM 636 (636---014)
SPECIAL PROVISION TO ITEM 643 (643---001)
SPECIAL PROVISION TO ITEM 658 (658---006)
SPECIAL PROVISION TO ITEM 666 (666---014)
SPECIAL PROVISION TO ITEM 672 (672---034)
SPECIAL PROVISION TO ITEM 682 (682---003)
SPECIAL PROVISION TO ITEM 687 (687---005)
SPECIAL PROVISION TO ITEM 730 (730---009)
SPECIAL PROVISION TO ITEM 734 (734---002)
SPECIAL PROVISION TO ITEM 735 (735---001)
SPECIAL PROVISION TO ITEM 738 (738---001)

SPECIAL PROVISION TO ITEM 752 (752---001)
SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 1122 (1122--001)
SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 6473 (6473--001)
SPECIAL PROVISION TO SPECIAL SPECIFICATION ITEM 6834 (6834--002)

SPECIAL SPECIFICATIONS:

ITEM 1122 TEMPORARY EROSION, SEDIMENTATION, AND ENVIRONMENTAL CONTROLS (161)(432)(556)
ITEM 3061 FAST TRACK CONCRETE PAVEMENT (110)(132)(150)(421)(585)
ITEM 4003 SCREW-IN TYPE ANCHOR FOUNDATIONS
ITEM 4116 SOIL NAIL ANCHORS
ITEM 5050 PORTABLE CONCRETE TRAFFIC BARRIER CONNECTION HARDWARE (442)
ITEM 5893 SANITARY SEWERS (100)(400)(402)(403)(420)(421)(440)(464)(465)(471)(476)(479)
ITEM 5969 WATER MAINS (100)(400)(402)(403)(421)(440)(471)(476)
ITEM 6007 REMOVING TRAFFIC SIGNALS
ITEM 6008 SHIFTING OR REMOVING EXISTING OVERHEAD SIGNS (634)(636)(652)(654)
ITEM 6473 MULTIPOLYMER PAVEMENT MARKING S (MPM) (677)(678)(8094)
ITEM 6834 PORTABLE CHANGEABLE MESSAGE SIGN
ITEM 8094 MOBILE RETROREFLECTIVITY DATA COLLECTION FOR PAVEMENT MARKINGS
ITEM 8260 LED COUNTDOWN PEDESTRIAN SIGNAL MODULE
ITEM 8835 ACCESSIBLE PEDESTRIAN SIGNAL UNITS (618)(624)(682)(684)(688)

GENERAL: THE ABOVE-LISTED SPECIFICATION ITEMS ARE THOSE UNDER WHICH PAYMENT IS TO BE MADE. THESE, TOGETHER WITH SUCH OTHER PERTINENT ITEMS, IF ANY, AS MAY BE REFERRED TO IN THE ABOVE-LISTED SPECIFICATION ITEMS, AND INCLUDING THE SPECIAL PROVISIONS LISTED ABOVE, CONSTITUTE THE COMPLETE SPECIFICATIONS FOR THIS PROJECT.

SPECIAL PROVISION

000--2878

Important Notice to Contractors

As of January 31, 2014, utilities and right of way within the project limits have not been cleared. The Department anticipates clearance by the dates listed below. Unless otherwise stated, clearance of these obstructions will be performed by their owners. Estimated clearance dates are not anticipated to interfere with the Contractor's operations. In the event the clearance dates are not met, requests for additional compensation or time will be made in accordance with the standard specifications.

The Contractor is invited to review the mapped information of obstructions on file with the Engineer.

UTILITY			
Utility Owner	**Approximate Location**	**Estimated Clearance Date**	**Effect on Construction**
IH 45 SBFR			
City of Houston	Water line 101+00 - 104+50	A	None if adjusted By date shown
City of Houston	Water line 125+80 - 131+00	A	None if adjusted By date shown
Centerpoint Elec	Power Pole 108+80	B	None if adjusted By date shown
Centerpoint Elec	Power Pole 124+80	B	None if adjusted By date shown
Centerpoint Gas	Gas Line 102+00 - 111+20	B	None if adjusted By date shown
IH 45 SWDC			
City of Houston	Water line 120+20	A	None if adjusted By date shown
City of Houston	Water line 125+50	A	None if adjusted By date shown
City of Houston	Water line 126+30 – 131+50	A	None if adjusted By date shown
City of Houston	Water line 137+26	A	None if adjusted By date shown
Woodridge			
City of Houston	Water line 13+00 – 16+00	A	None if adjusted By date shown
AT&T	Phone line 13+00 – 16+00	B	None if adjusted By date shown
Centerpoint Gas	Gas Line 12+50 – 16+00	B	None if adjusted By date shown

A. To be adjusted within the contract by Contractor

B. To be adjusted within 90 contractor working days after the ROW is staked and cleared, the conflicts staked and the company is notified in writing by the Contractor.

RIGHT-OF-WAY ACQUISITION			
Parcel Number	**Owner**	**Estimated Acquisition Date**	**Affect on Construction**
1	Mt Group Real Estate, L.P.	4 / 2015	None if Acquired by date shown
2	Houston Auto Auction Prop.L.P.	4 / 2015	None if Acquired by date shown
3	HD development Prop. L.P.	4 / 2015	None if Acquired by date shown
4	Woodridge drive No. 2 LTD	4 / 2015	None if Acquired by date shown
5	Navigation Bank	4 / 2015	None if Acquired by date shown
6	Carl A. Detering Trust Herman E. Detering III and The Deborah Inez Detering Trust	4 / 2015	None if Acquired by date shown
7	Gulfgate Redevelopment Authority	4 / 2015	None if Acquired by date shown
8	Bullseye Gulfgate L.P.	4 / 2015	None if Acquired by date shown
9	TBD	4 / 2015	None if Acquired by date shown

ENCROACHMENT		
Description	**Location**	**Estimated Clearance Date**
NONE		

RELOCATION		
Parcel Number	**Owner/Occupant**	**Estimated Completion Date**
NONE		

SPECIAL PROVISION

687---005

Pedestal Pole Assemblies

For this project, Item 687, "Pedestal Pole Assemblies," of the Standard Specifications, is hereby amended with respect to the clauses cited below, and no other clauses or requirements of this Item are waived or changed hereby.

Article 687.2. Materials is supplemented by the following:

C. Pedestrian Push Button Pole Assembly. Provide diameter as shown in the plans, schedule 40 steel pipe or tubing, aluminum pipe (alloy 6061-T6), or rigid metal conduit. Do not use aluminum conduit. Galvanize pedestrian push button post in accordance with Item 445, "Galvanizing," unless otherwise shown on the plans.

Article 687.3 Construction, Sections B. Installation and C. Painted Finish. are voided and replaced by the following:

B. Installation. Install pedestal pole assemblies and pedestrian push button pole assemblies as shown on the plans or as directed. Pedestal pole assemblies include foundation, pole shaft, base, anchor bolts, anchor bolt nuts, anchor bolt template, shims, and miscellaneous components. Watertight breakaway electrical disconnects are required for pedestal pole assemblies used in conjunction with vehicle and pedestrian heads and components. Pedestrian push button post assemblies include foundation, post, and post cap.

Use established industry and utility safety practices to erect assemblies near overhead or underground utilities. Consult with the appropriate utility company prior to beginning such work.

Repair damaged galvanizing in accordance with Section 445.3.D, "Repairs."

C. Painted Finish. When required, paint pedestal pole and pedestrian push button post assemblies in accordance with details shown on the plans.

Article 687.4 Measurement is voided and replaced by the following:

687.4 Measurement. This Item will be measured by each pedestal pole assembly or each pedestrian pushbutton post assembly."

Article 687.5 Payment is voided and replaced by the following:

687.5. Payment. The work performed and materials furnished in accordance with this Item and measured as provided under "Measurement" will be paid for at the unit price bid for "Pedestal Pole Assembly" or by the unit bid price for "Pedestrian Push Button Post Assembly."

This price is full compensation for furnishing and installing the shaft; base, shims, anchor bolts, and foundation; and materials, equipment, labor, tools, and incidentals.

New signal heads will be paid for under Item 682, "Vehicle and Pedestrian Signal Heads."

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